U.S. Department
of Transportation

**Research and
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Administration**

Annual Report on Hazardous Materials Transportation

Calendar Year 1984

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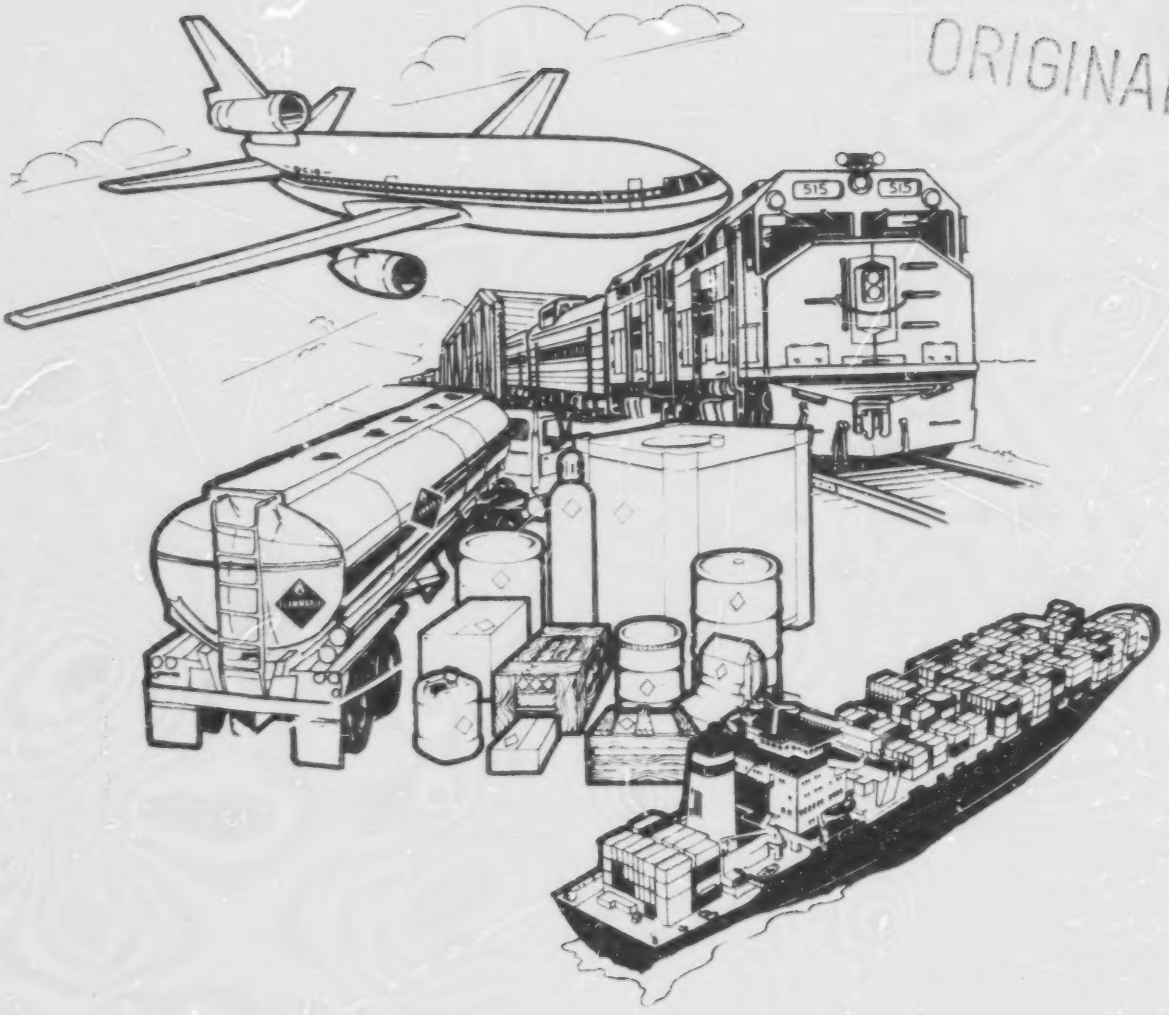

Materials Transportation Bureau

ANNUAL REPORT

ON

HAZARDOUS MATERIALS TRANSPORTATION

HAZARDOUS MATERIALS TRANSPORTATION ACT

(TITLE 1, PUBLIC LAW 93-633)

CALENDAR YEAR 1984

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PREFACE

Hazardous materials in the context of this publication are defined as those substances that, because of certain inherent characteristics, are determined by the Department of Transportation (DOT) to be capable of posing an unreasonable risk to health and safety when transported in commerce. Moving in the mainstream of American commerce, these commodities simultaneously bring both economic benefits and potential safety hazards to every corner of the Nation. It is the conflicting demands of economic viability and public safety that constitute the fundamental problem of hazardous materials transportation. It was to address this problem that the Hazardous Materials Transportation Act of 1974 (HMTA) (Title 1 of Public Law 93-633) was enacted.

Simply stated, the Act empowers the Department of Transportation to issue and enforce regulations deemed necessary to ensure the safe domestic and international movement of hazardous materials. In actuality, however, the Department's design for accomplishing this goal is considerably more far-reaching. A truly effective hazardous materials transportation management program is more than safety regulation development and enforcement. It seeks to educate; to encourage voluntary industry compliance rather than compliance by punitive measures: to support technology research; to remove barriers to the free flow of commerce by promoting uniformity in domestic and international

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regulatory requirements; and to ensure that the regulations with which the industry is required to comply are appropriate, understandable, precise, and enforceable.

These concepts are inextricably woven into the hazardous materials programs of the Department's operating administrations which, although delegated separate responsibilities, cooperate to provide a uniform, consistent approach to hazardous materials transportation management. While the HMTA provides the primary legislative authority for the Department's hazardous materials program, a number of other related statutes also guide the program. Among these are the Dangerous Cargo Act of 1940, Sections 601(c) and 902(h)(1) of the Federal Aviation Act of 1958, the Tank Vessel Act of 1936, the Ports and Tanker Safety Act of 1978, the Federal Railroad Safety act of 1970, Section 311 of the Federal Water Pollution Control Act Amendments of 1972, and the Resource Conservation and Recovery Act of 1976.

These statutes are, for the most part, mode specific and the Department's modal administrations--United States Coast Guard (USCG), Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), and Federal Railroad Administration (FRA)--retain jurisdictional responsibility for enforcement actions relating to transportation by water, air, highway, and rail. In addition, the USCG also issues and enforces regulations

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applicable to the transportation of both bulk and break-bulk (packaged) hazardous materials by vessel. Although the authority of the HMTA is not limited to break-bulk shipments, bulk shipments are regulated by the Coast Guard under the authority of other Acts and the 46 CFR Subchapters D, I, O and N.

The Materials Transportation Bureau (MTB), an element of the Department's Research and Special Programs Administration (RSPA), develops and issues regulations of single and multimodal applicability governing hazardous materials definition and classification, shipping and carrier operations, and packaging and container specifications. These regulations are not developed in isolation. Modal administrations contribute substantially to the process to ensure that the regulations do, indeed, address their unique requirements. MTB's regulatory responsibilities also extend to enforcement of all regulations other than those applicable to a single mode, with primary emphasis on enforcement of those regulations covering manufacturers, reconditioners, and retesters of DOT specification containers, and multimodal shippers of hazardous materials.

This report is required under Section 109(e) of the Hazardous Materials Transportation Act. It describes the Department's ongoing programs and policies for promoting safety in the transportation of hazardous materials, contains safety and enforcement data, and lists the regulations, as well as exemptions to the regulations, issued during the year.

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REGULATORY PROGRAM

The Research and Special Programs Administration's Materials Transportation Bureau is the primary element within the Department of Transportation responsible for developing a national regulatory program to protect against the risks to life and property inherent in the transportation of hazardous materials. Embodied in this regulatory program is the responsibility for the promulgation of all regulations of general applicability, and the issuance of amendments and exemptions thereto. Because of the multi-modal nature of hazardous materials transportation, MTB relies extensively on the participation of the four modal administrations in the regulatory process.

The hazardous materials transportation safety regulations are the product of nearly a century of ad hoc development by a variety of Federal agencies. The result of this fragmented rulemaking has been a certain amount of confusion in wording and organization, and in some instances unnecessary, overstated, or unenforceably vague requirements. Consequently, MTB in compliance with the provisions of the Regulatory Flexibility Act and the Department's policies, has embarked on an aggressive program of regulatory review that has resulted in the modification and in some instances the deletion of obsolete requirements. This regulatory review program includes efforts to restructure the text of existing regulations--incorporating recent technological advances; eliminating areas of confusion, redundancy, or inconsistency; converting from design specifications to performance-oriented standards

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where feasible; and eliminating requirements that are shown not to be cost-effective or beneficial. The regulatory reform program also involves cooperation with state and local governments and international standards-setting organizations to ensure that the industry is not confronted with a multitude of conflicting and inconsistent shipping and handling requirements.

The rulemaking process, whether it institutes a new regulation or amends an already existing requirement, evolves from one or more of four sources: petitions for rulemaking received from the general public; rulemaking proposals from the four modal administrations; an MTB initiative to improve existing regulations or provide for peculiar situations not presently covered by the rules; or the need to change existing regulations as a result of MTB's enforcement experiences. Whatever the impetus that drives the need for rulemaking, the process encourages the direct involvement of the public in formulating the regulations through the solicitation of comments at the time of issuance of Advance Notices of Proposed Rulemaking (ANPRM) and Notices of Proposed Rulemaking (NPRM). Publication of a final rule is the culmination of the rulemaking process and occurs only after analysis of all public comments, internal and external coordination, and examination of economic and environmental impacts of the rule on the regulated community.

During 1984, MTB issued 13 amendments to the regulations and offered 16 notices and advance notices of proposed rulemaking for comment. Rulemaking governing tank car and cargo tank manufacturing

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specifications, and usage of the commodities transported therein was the subject of focus in 1984. Four amendments to the regulations pertaining to these vehicles and their contents were either finalized or introduced during the year.

- o In response to 18 petitions for reconsideration of a final rule published in 1983, MTB relaxed certain requirements governing usage and manufacture of cargo tanks used in transporting cryogenic liquids. Specifically the amendment permits the use of anodized aluminum and aluminum fittings in parts of the vehicle where friction is created by moving parts, or where no lading is retained; establishes minimum steel thicknesses for the MC-338 cargo tank; and authorizes additional pressure control valve settings for DOT-4L cylinders. Over the years cargo tanks in cryogenic liquid service were built under DOT exemptions to the regulations prohibiting such manufacturing practices. As a result of this rulemaking, 88 exemptions were eliminated with no compromise to safety.

- o Amendments to parts 173 and 179 of the regulations require the retrofitting of prior 1981 specification 105 tank cars with tank head and thermal protective systems by December 31, 1986.

- o The concerns expressed by some emergency response persons prompted a proposal to eliminate the requirement to display

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"EMPTY" placards on tank cars containing residues of certain hazardous materials. Under the present regulations, each tank car that has been emptied, except for a residue of a hazardous material (other than combustible liquid), must be placarded with an "EMPTY" placard. Some emergency response personnel have expressed concern that the "EMPTY" placard communicates an erroneous message inasmuch as some residue (probably less than three percent) of the hazardous materials remains in the tank car and can be potentially dangerous. MTB is proposing to eliminate the "EMPTY" placarding requirement specified in the HMR thereby retaining the cautionary orientation in handling the vehicle and its contents. A notice of proposed rulemaking soliciting comments on this proposal was issued in late 1984. Response to this notice will dictate the future of this proposal.

- A petition from the Association of American Railroads for reconsideration of a 1981 rule establishing certain construction standards for DOT specification 105 tank cars built to carry ethylene oxide, resulted in an amendment to that rule. The new rule provides an option for safety relief valve sizing for tank cars built after February 24, 1984. Under current requirements, class 105 cars must be equipped with a safety relief valve having a discharge capacity calculated in accordance with a formula designed for compressed gases in uninsulated tanks. This amendment provides for specification 105 tank cars used to transport ethylene oxide to be equipped

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with a safety relief valve of lesser discharge capacity when additional high temperature thermal protection of the tank is provided.

Appendix A provides a listing of all rulemaking actions published in 1984 including those which:

- Adopted a uniform hazardous waste manifest developed jointly with the Environmental Protection Agency (EPA), that will assure uniform enforcement, and resolve confusion and compliance difficulties experienced by shippers and carriers. EPA's Resource Conservation and Recovery Act (RCRA) regulations presently require generators who transport, or offer for transportation, hazardous waste for off-site treatment, storage, or disposal, to prepare a manifest, which must accompany the waste. Although the RCRA regulations require that certain information must appear on the manifest there has been no federal requirement that a standard manifest form be used. This rulemaking combines the requirements for both EPA's waste manifest and DOT's shipping papers into one document.

- Proposed to permit the offering, acceptance, and transportation by aircraft, and by motor vehicle incident to transportation by aircraft, of hazardous materials shipments conforming to the most recent edition of the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe

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Transport of Dangerous Goods by Air. These amendments are necessary to insure a basic consistency between the Hazardous Materials Regulations and the ICAO Technical Instructions and to facilitate the continued international shipment of hazardous materials by aircraft when the 1985 edition of the ICAO Technical Instructions becomes effective on January 1, 1985.

- Continued the incorporation of existing exemptions into rules of general applicability where feasible. Adoption of these exemptions as rules of general applicability provides wider access to the benefits of transportation innovations recognized as effective and safe. It also eliminates the need for recordkeeping by the exemption holder(s); for marking the exemption number on the package and shipping paper(s); and for MTB to receive, review, docket, evaluate, and issue renewal of the exemption every two years.

The Bureau of Motor Carrier Safety of the Federal Highway Administration and MTB continued efforts to develop a rulemaking action to completely revise and rewrite the specifications for the MC 306, MC 307 and MC 312 type cargo tanks. This effort will incorporate many of the suggestions and results of the research efforts conducted on the integrity of these types of cargo tanks. Also included will be provisions to allow the manufacture of hazardous waste vacuum cargo tanks, which are now authorized only by exemption. Approximately 30 petitions for rulemaking on file with the MTB will be evaluated for inclusion in the rewrite. A notice of proposed rulemaking is expected in early 1985.

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On July 1, 1981, Section 30 of the Motor Carrier Act of 1980, entitled "Minimum Levels of Financial Responsibility for Motor Carriers", became effective. Section 30 of the Act sets forth minimum levels of financial responsibility covering public liability, property damage, and environmental restoration for hazardous materials-laden vehicles engaged in interstate or intrastate commerce. As mandated by Congress under the Motor Carrier Act of 1980, the minimum financial responsibility levels for property-carrying commercial vehicles increased beginning January 1, 1985.

The increases in liability coverage generally apply to all for-hire and private motor carriers engaged in interstate, intrastate or foreign commerce. The following schedule of limits sets forth the required levels of financial responsibility.

SCHEDULE OF LIMITS

Public Liability

*Type of Carriage	Commodity Transported	July 1, 1981	Jan. 1, 1985
(1) For-hire (In interstate or foreign commerce).	Property (nonhazardous)	$ 500,000	$ 750,000
(2) For-hire and Private (In interstate, foreign, or intrastate commerce).	Hazardous substances, as defined in 49 CFR 171.8, transported in cargo tanks, portable tanks, or hopper-type vehicles with capacities in excess of 3,500 water gallons; or in bulk Class A or B explosives, poison gas (Poison A), liquefied compressed gas or compressed gas; or highway route controlled quantity radioactive materials as defined in 49 CFR 173.403.	$1,000,000	$5,000,000
(3) For-hire and Private (In interstate or foreign commerce: in any quantity) or (In intrastate commerce: in bulk only).	Oil listed in 49 CFR 172.101; hazardous waste, hazardous materials and hazardous substances defined in 49 CFR 171.8 and listed in 49 CFR 172.101, but not mentioned in (2) above or (4) below.	$ 500,000	$1,000,000
(4) For-hire and Private (In interstate or foreign commerce).	Any quantity of Class A or B explosives; any quantity of poison gas (Poison A); or highway route controlled quantity radioactive materials as defined in 49 CFR 173.403.	$1,000,000	$5,000,000

*Note: The type of carriage listed under numbers (1), (2), and (3) apply to vehicles with a gross vehicle weight rating of 10,000 pounds or more. The type of carriage listed under number (4) applies to all vehicles with a gross vehicle weight rating of less than 10,000 pounds.

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The Coast Guard and MTB are engaged in a joint project to revoke the regulations in 46 CFR 146 applying solely to military explosives and to consolidate the regulations for military explosives with those in 49 CFR applying to all types of explosives. This project was in abeyance throughout most of 1984 pending a decision by MTB on whether to adopt the United Nations scheme for classifying and stowing explosives. Barring further unforeseen delays, publication of a Notice of Proposed Rulemaking is expected by mid - 1985.

Other Coast Guard regulatory activities include:

- o Contracting with the Transportation Systems Center (TSC) to perform a formal evaluation of the existing waterfront facility regulations as they currently exist in 33 CFR 126. TSC will review the existing regulations, determine their effectiveness, and analyze the extent of any necessary revisions.

- o Working closely with the National Fire Protection Association (NFPA) to revise industry standards which reflect the changing technologies in the area of marine transportation and material movement in the port area. The publication of the completely revised NFPA Standard 307 (Marine Terminals), which will include sections on dangerous commodities, containers, and storage, will mark a significant step towards the provisions of industry-wide standards developed with Coast Guard involvement. NFPA 307 is scheduled for publication in spring of 1985.

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Exemptions

As authorized by Section 107 of the Hazardous Materials Transportation Act, the Materials Transportation Bureau grants exemptions to the hazardous materials transportation regulations that permit practices and procedures not specifically authorized in the regulations. The need for exemptions arises from the changing nature of hazardous materials transportation. Literally hundreds of new chemical mixtures or variations of existing mixtures are introduced into commerce each year. New packaging techniques are continuously under development, and shipping problems arise requiring special authorization to permit their quick resolution. The exemption program exists to permit the hazardous materials industry to utilize the products of technological innovation in a timely and efficient manner.

Exemption applications consist of requests for new exemptions, requests for modification of existing exemptions, requests for renewal of exemptions, and requests to be a party to existing exemptions. In 1984, MTB received 1,395 applications for exemptions; granted 1,309 including 1,131 renewals, modifications, or parties to existing exemptions; and 44 emergency exemptions. The exemption mechanism provides the industry with temporary relief from strict compliance with a given regulation. It can, however, impose an administrative burden on industry over and above that of the regulations, in terms of the time and effort involved in completing the application demonstrating the safety level of the proposed transportation method and the additional time involved in processing the application within the

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Department. Consequently, in 1976, MTB established an exemption conversion program, the purpose of which is to eliminate the need for issuing recurring exemptions by incorporating provisions that are comparable to the terms and conditions of the exemption directly into the regulations. Criteria used for selecting exemptions for conversion into the regulations include the hazard classification of the commodity, the type of packaging used, shipping experience, test data, and the mode of transportation. Acting under 46 CFR 146.29-11(c)(16) and 49 CFR 176.76(a), the Coast Guard approved 13 requests to ship military or Class A explosives in freight containers by vessel. The Coast Guard also issued three Letters of Authorization allowing non-DOT specification portable tanks to transport combustible liquids by vessel.

At the end of 1984 there were 992 exemptions in effect involving 1,817 holders of, and parties to, exemptions. Emergency exemptions issued in 1984 are shown in Appendix B.

Approvals

In the area of approvals, MTB's responsibilities include inspection and approval of non-domestic cylinder manufacturers; coordinating the registration, testing, and approval functions formerly delegated to the Bureau of Explosives of the Association of American Railroads; conducting inspections and investigations in select areas; and developing and issuing regulatory changes governing these activities.

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The Repair and/or Rebuilding Program remained active in 1984 with 21 firms registered with MTB. MTB conducted inspections of 20 cylinder manufacturers' production facilities in Sweden, Italy, Yugoslavia, England, Canada, France, Belgium, and Japan which produced 287,165 cylinders for which they sought U.S. approval. The hydrostatic retesting program begun in 1978 continued with the issuance of retester identification numbers to 1,763 companies in the United States and 17 companies in Canada, Japan, West Germany, England, Marshall Islands, Philippines, Guam, Puerto Rico, Virgin Islands, and Johnson Atoll. The number of explosive classification requests continued to climb in 1984 with approximately 4,338 approvals granted--a 26% increase over 1983. Similarly with respect to requests for approval of fireworks devices--due to the continued enforcement efforts of both the Department of Transportation and the Department of the Treasury to bring fireworks shipments into compliance, fireworks approval requests rose in 1984 with MTB granting 2,410 approvals--a 23% increase over 1983.

As the United States Competent Authority for all modes of transport, MTB is also assigned the responsibility for issuing competent authority approvals and certifications under the International Civil Aviation Organization's (ICAO) Technical Instructions and the International Maritime Organization's IMDG Code. These approvals and certifications, required in certain instances under international regulations to permit the shipment of hazardous materials, are of great importance to international shippers and carriers of hazardous materials. During the past year a total of 312

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competent authority approvals were either initially issued or renewed. Of these, 96 were issued pursuant to provisions of the ICAO Technical Instructions, 85 were issued pursuant to provisions of the IMDG Code and 131 dealt with radioactive materials packagings.

OTHER

MTB engaged in other regulatory actions relating to extension of comment periods, delay of effective dates, withdrawal of notices, announcements for meetings, and corrections to previously published documents; responded to numerous inquiries into the meaning and intent of general regulations as they pertain to individual and specific situations; acted on 34 petitions for reconsideration arising from four separate rulemakings; and docketed 28 petitions for rulemaking.

Approvals and Registrations Issued in 1984

Approvals	Received	Granted
Explosives Classification	4190	4338*
Cylinder Retesters	447	254
Cigaretta Lighters/Packagings	151	151
Domestic Independent Inspection Agency Approvals	2	1
Repair/Rebuilders	11	3
Foreign Approvals Mfgrs.	11	7
Foreign Approvals Insp.	12	8
Special Approvals	52	54*

Registrations	Received	Granted
Drum Reconditioners	21	21
Specification 35	5	5
Specification 39	5	5
Symbol Registration	50	50
ANFO Registrations	2	2

* Includes requests received in a prior year.

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Registration of Cylinders Requalification Facilities

Domestic

Alabama	30	Montana	12
Alaska	9	Nebraska	10
Arizona	16	Nevada	11
Arkansas	19	New Hampshire	10
California	149	New Jersey	61
Colorado	27	New Mexico	7
Connecticut	32	New York	89
Delaware	4	North Carolina	45
Florida	123	North Dakota	10
Georgia	28	Ohio	101
Hawaii	12	Oklahoma	20
Idaho	6	Oregon	23
Illinois	64	Pennsylvania	102
Indiana	41	Rhode Island	12
Iowa	25	South Carolina	16
Kansas	18	South Dakota	5
Kentucky	29	Tennessee	31
Louisiana	49	Texas	132
Maine	8	Utah	10
Maryland	31	Vermont	4
Massachusetts	57	Virginia	45
Michigan	61	Washington	34
Minnesota	29	West Virginia	15
Mississippi	13	Wisconsin	34
Missouri	39	Wyoming	4

Total 1762

Foreign

Guam	1	Canada	2
Puerto Rico	1	Johnson Atoll	1
Virgin Islands	1	West Germany	1
Japan	6	Marshall Islands	1
Philippines	1	England	2

Total 17

Grand Total 1779

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INTERNATIONAL ACTIVITIES

The United States' position in the international scene has been to promote a worldwide system of consistent modal and regional transportation requirements to ensure that, insofar as is practicable, hazardous materials shipments move freely and safely between the various modes and regions of the world. Strong United States participation in the development of international standards is also essential to the economic interests of the United States domestic hazardous materials industry. Application of international standards by governments throughout the world has a direct impact on U.S. shippers and carriers involved in export trade. The Department of Transportation supports this uniform, global approach to the safe transportation of hazardous materials through participation in the work of five international organizations.

These organizations are:

1. The United Nations' Committee of Experts on the Transport of Dangerous Goods, and its subsidiary bodies:

   (a) The Group of Experts on Explosives, and
   (b) The Group of Rapporteurs;

2. The International Maritime Organization's; Committee on the Carriage of Dangerous Goods;

3. The International Civil Aviation Organization; Dangerous Goods Panel;

4. The Group of Experts on the Transport of Dangerous Goods of the Economic Commission for Europe's Inland Transport Committee;

5. The International Atomic Energy Agency.

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A summary of the Department's participation in the activities of each organization during 1984 follows:

The United Nations' Committee of Experts on the Transport of Dangerous Goods

This Committee is the focal point of international activity regarding the transport of packaged hazardous materials (except radioactive materials). The RSPA's Materials Transportation Bureau is the agency charged to represent the United States on this committee and on its subsidiary bodies. At its regularly scheduled meeting in 1984 the Committee adopted a number of measures including:

- o A manual of tests for the classification of explosives that will ensure a basic uniformity in the transport classifications assigned to explosives by the appropriate national authorities. This classification in turn provides the basis for the types of operational controls that are imposed on the transport of the explosive by taking account of the nature and level of hazard it presents. The Committee agreed to publish this manual as an annex to its recommendations.

- o Revised recommendations dealing with the transport provisions for organic peroxides. As a result of these revisions a number of extraneous or redundant provisions were removed, vague provisions clarified, and the packaging provisions updated to reflect the revised packaging performance standards adopted by the Committee at its previous session.

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- Proposed construction and testing standards for both metallic prismatic and flexible Intermediate Bulk Containers (IBC). Particularly noteworthy was the success of the United States delegation in defeating a proposal to alter the drop test for metallic IBC's which would have required that the IBC be dropped in an orientation most likely to result in damage to it.

- A number of amendments or additions to the list of Dangerous Goods. These included changes proposed by the U.S. for the entries for mercaptans and mercaptan mixtures, paint and paint-related materials (including paints containing nitrocellulose) and 1, 4-Butynediol, all of which had been requested by U.S. industry.

- A new standard for the design, construction, testing and use of tank containers for the transport of deeply refrigerated gases and a joint United States/Swedish proposal regarding the safety factors to be used in calculating the collapse pressure of the jackets of vacuum insulated tank containers.

International Maritime Organization (IMO)

The International Maritime Organization is a specialized agency of the United Nations concerned primarily with the promotion of safety in shipping and the prevention of marine pollution from ships. The IMO facilitates cooperation among governments on technical matters affecting

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marine safety and pollution prevention through the exchange of information under the auspices of its committees and the adoption of international agreements. The United States participates in the work of the IMO through the U.S. Department of State's Shipping Coordinating Committee (SHC), which coordinates all U.S. input into the organization. The U.S. Coast Guard provides the majority of technical expertise to SHC, and, with RSPA, represents the Department of Transportation at sessions of the IMO's Subcommittee on the Carriage of Dangerous Goods (CDG).

The Carriage of Dangerous Goods Subcommittee publishes and maintains the International Maritime Dangerous Goods (IMDG) Code. This Code is recognized as the worldwide standard for transportation of packaged hazardous materials by vessel. It should be noted that the United States' regulations governing transportation of hazardous materials incorporate substantial portions of the IMDG Code by reference. The U.S. delegation presented 13 position papers at the 36th Session of the CDG Subcommittee held in 1984. U.S. proposals adopted included:

- o Reclassification of aerosols;
- o A table of permitted packaging for corrosive materials;
- o Addition of pesticides and poisons "not otherwise specified" (N.O.S.) to the list of substances suitable for carriage in portable tanks; and
- o Emergency procedures for radioactive materials consistent with U.S. regulations.

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While the majority of amendments adopted were consistent with United States' objectives, three decisions will have adverse impacts on United States interests. These are:

- o The adoption of a revised text for the IMO standard for tank containers intended for the transport of liquefied gases. The United States registered serious reservations regarding the levels of stress permitted in the tanks under this standard.

- o The requirement for certain permanent markings on all new and existing cylinders used for the transport of compressed gases. Many of the makings required are at variance with current United States' marking practice, and the remarking of all existing cylinders to conform to the IMO requirements is not considered feasible.

- o The new provision concerning the description and classification of solutions and mixtures. While the revised text adopted at this session is an improvement over the previously adopted text, the new text still does not adequately address the types of packagings that are permissible for such solutions and mixtures, thereby introducing a level of subjectivity into the regulations which could prove troublesome to United States chemical shippers.

The Coast Guard also represented the United States at the 20th Session of the Marine Environment Protection Committee (MEPC). During this session, amendments and guidelines to Protocol 1 of the International

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Convention for Prevention of Pollution from Ships (MARPOL 73/78) were drafted for the mandatory reporting of discharges and potential discharges of hazardous materials carried in bulk or as packaged goods. Amendments would require reporting by all vessels wherever the discharge occurs offshore. Work on these amendments will continue during 1985.

International Civil Aviation Organization (ICAO) Dangerous Goods Panel (DGP)

The Dangerous Goods Panel of the International Civil Aviation Organization was established to develop an Annex 18 to the Chicago Convention on International Civil Aviation. This document describes basic requirements for the safe transportation of dangerous goods by air and became effective in January 1983. One year of experience with these standards had identified a number of problems that were addressed during 1984. The Technical Instructions to Annex 18 was updated for the second time to provide appropriate measures for the safe transport of new chemicals entering into the market place: to address potential safety hazards as they are identified; to incorporate advancements in packaging and air transport technology and to address issues that result in the imposition of unwarranted economic hardships on shippers and carriers. Amendments of particular importance to the United States adopted during the year include:

- Alignment of the Technical Instructions with the Annex 18 provisions on the transportation of aircraft parts and supplies.

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- Inclusion of a subclass "other regulated substances" within class A of the Instructions to include those substances not meeting the definition of another hazard class but which could have a narcotic, irritating or anesthetic effect on flight crew members. This measure achieves consistency with the DOT regulations regarding the transport of these potentially dangerous materials.

- Approval of the transportation of poisonous and flammable gases aboard passenger aircraft. The U.S. representative opposed this decision and it may become necessary, for safety reasons, to file a U.S. variation as a result of this amendment.

No action was taken on the following three U.S. proposals:

- Suitability of aircraft cargo compartments for the transport of dangerous goods. This proposal, which is consistent with United States regulations regarding the loading of dangerous goods aboard aircraft, would have delineated the classifications of cargo compartments considered suitable for the transport of dangerous goods and would have ensured that, with certain exceptions, dangerous goods would be carried aboard aircraft in a location accessible to the crew.

- Excepted small quantities of dangerous goods. A working group of the organization had previously accepted a proposal to exempt small quantities of dangerous goods from requirements of the

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Technical Instructions provided they were packaged in conformance with very stringent packaging requirements. In principle, these exceptions would be similar to those that have been provided for excepted quantities of radioactive materials. This question may be considered further at future meetings.

- o Use of "non-specification" packagings for limited quantities of dangerous goods. The Panel decided to postpone a discussion on the further development of packaging relaxations for limited quantities.

A complete review of Annex 18 is on the agenda for the next meeting of this group. This review will be an attempt to resolve the problems associated with modifying that document to accommodate amendments to the Technical Instructions.

The FAA's Second International Dangerous Goods Conference, which was held in Washington, D.C., was an outstanding success with 250 attendees from over 20 countries. Attendees represented major air carriers, freight forwarders, and shippers of hazardous materials together with many other entities of the aviation community, some traveling from as far away as Australia, Taiwan, and Japan. Also included were representatives of many aviation organizations such as the International Civil Aviation Organization, the International Air Transport Association, the Airline Pilots Association, and the Air Transport Association, as well as representatives from the Governments of the United Kingdom, Federal Republic of Germany, France, the Netherlands, and Canada. The main theme

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of the conference was "Safety Through Education, Understanding, and Compliance". Safety for those who must deal with the offering, accepting, and transporting of dangerous goods, as well as the traveling public, is the responsibility of all concerned, from the initial shippers to the air carrier. It is also the responsibility of the regulator who ensures compliance with the regulations dealing with the safe transportation of dangerous goods by air.

The agenda for the meeting dealt with ICAO Technical Instructions, the problems experienced by shippers of dangerous goods in having their products accepted and transported by air carriers that are inclined to place additional restrictions on the shipment, the problems of dangerous goods in the mail (particularly etiologic agents), regulatory problems as they relate to different countries and locations, and the training and education processes involved in attempting to keep abreast of the ever changing dangerous goods regulations. The participants were exposed to various perspectives on dangerous goods transportation from the point of view of pilots, all cargo carriers (from the largest to the smallest fast package mover), European and Far East operators, as well as various Government representatives.

Economic Commission for Europe (ECE) Group of Experts on the Transport of Dangerous Goods

The Economic Commission for Europe Group of Experts is responsible for updating and revising the European agreements concerning the Carriage of Dangerous Goods by Road (ADR). At least once each year it meets

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jointly with the body responsible for updating the International Regulations concerning the Carriage of Dangerous Goods by Rail (RID) to ensure consistency between the two sets of regulations. The following matters, of particular interest to the United States, were discussed at 1984 meetings:

- Harmonization of the RID/ADR provisions for the transport of organic peroxides with those in the recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (UN Recommendations). General provisions including a definition of the term "Technically Pure" were agreed upon. Work on this project will be resumed in 1985.

- Review of the proposed amendments intended to align the requirements for the design and construction of rail tank cars, tank trucks, and multi-modal tank containers which resulted in agreement on the amendments.

- Alignment of the RID/ADR requirements for the design, construction, and use of tank containers with the corresponding provisions of the UN recommendations. Several governments, including the United States and Soviet Union, expressed the view that the entire body of tank-container provisions in RID/ADR should be revised to reflect the current UN and IMO recommendations. However, the majority of governments with the U.S. dissenting favored simply adding the U.N. and IMO provisions to the existing RID/ADR requirements. This decision would mean

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that tank containers acceptable for worldwide transport by sea according to IMO provisions would not be found acceptable for unrestricted European over-land use.

- Review of proposals to amend the RID/ADR to take account of the transport of hazardous wastes. There is a sense of urgency associated with this work because of the highly political nature of the question of the transport of hazardous wastes and because of a desire to stem the intervention of other international organizations into the hazardous waste transport field. A second reading of these amendments will be conducted at the next joint meeting.

- Adoption of changes to the Dangerous Goods label specifications to align them with the current UN and IMO label standards; adoption of the latest label standards for radioactive materials as prescribed by the IAEA; and inclusion of a provision in RID/ADR to permit the transport, either before or after transport by air or sea, of dangerous goods in packages conforming to ICAO or IMO requirements. These decisions will facilitate the transport of dangerous goods by air and sea between the United States and Europe. Equally important was the rejection of a Belgian proposal that would have required special marking on plastic drums to indicate that certain compatability testing had been conducted.

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International Atomic Energy Agency (IAEA)

The International Atomic Energy Agency is an intergovernmental body chartered to foster the peaceful contribution of nuclear energy to mankind. A very necessary element in the application of nuclear technology is the transportation of nuclear materials. Consequently, the IAEA has developed a regulatory system to help ensure the safe international transportation of radioactive materials. The Materials Transportation Bureau serves as the U.S. Competent Authority to the IAEA and in this capacity coordinates activities among the various Federal Agencies involved in nuclear transportation, and the public. MTB also issues the Certificates of Competent Authority relating to package and shipment approvals required by the IAEA transportation regulations and provides technical expertise to the IAEA.

The periodic IAEA revision of its transport regulations was completed in 1984. The MTB dedicated considerable effort to ensuring that equitable U.S. positions were formulated and effectively presented to the IAEA and that the mechanisms and schedules for the adoption and orderly implementation of the revised regulations were set in place. Published as the 1985 Edition of the IAEA Transport Regulations these revisions must also be presented to the international transport organizations, e.g., ICAO and IMO, for adoption and incorporation into their regulations. To ensure uniform application of the new requirements, an advisory group was convened for the purpose of developing explanatory and advisory material for issuance as a companion document to the revisions. Specific guidance was also developed on the Quality Assurance requirements and advice was

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generated to aid developing countries in their adoption and implementation of the transport regulations. January 1, 1988 has been established for adoption of the revisions by member countries and the international transport organizations.

MTB Programs To Implement International Standards

The Department's active involvement in the development of international standards for the transportation of dangerous goods is of limited value unless steps are taken to incorporate them within the domestic regulatory program. As industrialized nations move more and more toward the implementation of these international standards, United States industries engaged in the international sale and transportation of these products may find themselves having to comply with dissimilar domestic and international regulations. It is, therefore, incumbent on the Department to recognize these standards through the Hazardous Materials Regulations so as to minimize the economic burdens that compliance with such double standards would impose on these industries. Furthermore, the General Agreement on Trade and Tariffs (GATT) requires the United States under international law to take steps to eliminate regulations which constitute non-tariff barriers to trade. Similarly, under Title IV of the Trade Agreements Act of 1979 (Public Law 96-39), the Department has a statutory mandate to incorporate international standards within the hazardous materials regulations to the maximum extent consistent with safety and, in particular, to consider those international standards that are performance oriented. For these reasons, MTB did, indeed, implement some of these international standards using the two vehicles available to it--rulemaking

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and competent authority approvals. In the rulemaking area, MTB:

- Updated the reference in 49 CFR 171.7 to include the 1984 edition of the ICAO Technical Instructions on the Safe Transport of Dangerous Goods by Air. As a result of this change, hazardous materials may be transported by air, and by motor vehicle in association with transportation by air, when packaged, marked, labeled, classified, certified and described on shipping papers, and when within the maximum net quantity per package permitted aboard passenger or cargo aircraft, as appropriate, as provided in the 1984 edition of the ICAO Technical Instructions. The final rule also amended certain provisions of 49 CFR Part 175 to align the requirements for the carriage of hazardous materials aboard aircraft with those in the 1985 edition of the ICAO Technical Instructions established by ICAO.

- Continued review of comments to a proposal that the vast majority of DOT specifications for packagings having a capacity of 110 gallons or less, would be removed and replaced with performance oriented packaging standards based on those contained in the Recommendations of the UN Committee of Experts and which have been, or are currently being, implemented by ICAO, IMO and RID/ADR.

There is considerable industry interest in the Department's involvement in these international organizations, driven by the impact the recommendations and regulations issued by these organizations have on

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United States industries involved in the international sale and distribution of hazardous materials. The Materials Transportation Bureau hosts periodic public meetings to inform the industry of work underway within these organizations and increasing numbers of U.S. businesses have approached MTB with requests to initiate particular actions with various international organizations or for assistance in obtaining approvals or information from foreign governments.

Continued participation by the Department in these international standards-setting bodies is absolutely essential. The most recent figures available indicate the United States currently enjoys a positive balance of trade in chemicals (excluding petroleum products) estimated to be in excess of $12 billion. Ensuring that the requirements developed by these international bodies promote safety in the international transportation of hazardous materials without hindering the free movement of these materials by creating artificial trade barriers requires a continued commitment on the part of the Department.

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INSPECTION AND ENFORCEMENT

The Department of Transportation conducts a wide-ranging inspection and enforcement program to assure industry compliance with the hazardous materials transportation regulations, and to reduce the potential for catastrophic accidents that may result from violations of the safety regulations. While responsibility for the development of hazardous materials transportation safety regulations is vested in the Materials Transportation Bureau (MTB), once the regulations are issued, enforcement and surveillance to ensure compliance in each mode becomes the responsibility of individual modal administrations.

Enforcement of hazardous material regulations, however, is only one facet of modal enforcement responsibility. Unlike the Materials Transportation Bureau whose sole responsibility is hazardous materials transportation safety, modal administrations' primary responsibility is carrier safety. Monitoring the movement of hazardous materials is done in conjunction with those responsibilities. To achieve the unified departmental posture essential to an effective hazardous materials safety regulatory program, MTB convenes a monthly intermodal enforcement meeting attended by representatives of each of the modal administrations. It is through this medium that is forged the cooperation and coordination of inspection and enforcement information that ensures uniformity in the application of the hazardous materials regulations and enhances the credibility of the Department's enforcement program.

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Dispersion of the Department's inspection resources is displayed in Table 1.

Table I
Hazardous Materials Inspectors — 1984

Operating Administration	Full-Time Inspectors	Part-Time			Total Work-Years
		Inspectors	Percent of Time	Work-Years	
USCG.....	0	570	2	12	12
FAA	11	102	4	4	15
FHWA	7	142	15	21	28
FRA	34	62 104	15 5	9 5	48
RSPA	7	1	50	.5	7.5
Totals.....	59	981		52	111

In 1984, the Federal Highway Administration's Bureau of Motor Carrier Safety's (BMCS) 149 full- and part-time hazardous materials specialists expended a total of 28 work-years investigating 147 incidents, conducting 5,765 audits of shippers and motor carriers and 6,325 examinations of drivers and equipment engaged in hazardous and radioactive materials movements. This activity resulted in the initiation of 154 enforcement cases and the imposition of civil penalties totaling approximately $237,000.

Calendar year 1984, was the first year of operation of the Federal grant program authorized by the Surface Transportation Assistance Act of 1982, which makes funds available to States for enforcement of truck and bus safety requirements. Increased state enforcement, assisted by the Motor Carrier Safety Assistance Program

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(MCSAP), is expected to improve intrastate and interstate motor carrier compliance with applicable safety regulations, including loading, handling, and highway transportation of hazardous materials. As of December 30, 1984, a total of 46 States and Territories participted in MCSAP in either the development or the implementation of motor carrier safety programs. All States taking part in the implementation phase have hazardous materials safety programs. Also, approximately 250 State enforcement personnel received training in hazardous materials transportation safety including roadside inspection of cargo tanks. It is anticipated that a notable decrease in commercial motor vehicle accidents and highway hazardous materials incidents will result from this enchanced safety enforcement program. BMCS also undertook a new initiative involving the monitoring and inspection of materials and processes utilized in the fabrication of cargo tanks to be used in the bulk transportation of hazardous materials by highway. The purpose of these examinations is to determine the manufacturer's compliance with applicable Federal regulations.

The Coast Guard conducts vessel boarding and waterfront facility inspections to ensure compliance with regulations under Titles 33,46 and 49 of the Code of Federal Regulations. Violations are reported to the district commanders and penalty procedures are initiated under their authority. Violations data entered in the Marine Safety Information System on break-bulk cargo vessels in 1984 indicate 200 violations noted and corrected, 78 penalty actions initiated, and 72 letters of warning issued.

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The Coast Guard routinely publicizes civil penalty and enforcement actions on the premise that publicizing that information often discourages violations and educates the public about prohibitions and sanctions. Guidance designed to achieve objectivity and fairness in reporting this information was developed and issued in 1984.

New vessel boarding guidelines implemented during 1983 resulted in greater boarding efficiencies in 1984. Although fewer vessels were boarded, more discrepancies were identified (see Figure 1) as vessel boardings were directed toward high-priority vessels defined as:

- o Vessels with one or more packaged hazardous materials violations;
- o Vessels with a reported packaged hazardous materials incident;
- o Vessels not boarded in the previous six months.

As a follow-up to these new guidelines, the Coast Guard is currently developing a standard vessel boarding form to increase inspection and enforcement consistency. Guidelines for inspections of waterfront facilities which handle hazardous materials are also scheduled for updating in 1985.

A major changeover to a central data base system, referrred to as the Marine Safety Information System (MSIS), took place in 1984. In June, the Port Safety Module was placed into nationwide operation. This module provides for the direct entry of vessel boarding results, immediate updating of vessel histories, and the electronic processing of discrepancy reports. The Port Safety Module is expected to improve the vessel boarding program by providing accurate and timely vessel

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information and reducing administrative processing time for violation reports.

The Coast Guard and National Cargo Bureau work closely in ports throughout the U.S. coordinating vessel boarding activities. This results in fewer duplicate boardings, and thus, the Coast Guard and National Cargo Bureau together are able to monitor hazardous materials transfer operations on a larger number of vessels. Steps are being taken to improve the monitoring of radioactive materials cargo transfers at waterfront facilities. An evaluation of existing monitoring equipment in the field is underway, and updated guidance will be issued in 1985 on specific monitoring procedures, limitations, and training. There has been increasing concern among Coast Guard field units and industry regarding their responsibilities in the event of a radiological incident. The Coast Guard is coordinating its response to questions on this matter with various agencies in the DOT and with the Federal Emergency Management Administration (FEMA).

Another matter of obvious concern is the expeditious deployment of combat equipment and cargo through commercial ports. To address this issue the Coast Guard has executed a Multi-Agency Memorandum of Understanding (MOU) on Port Readiness which describes the functional responsibilities of the individual agencies of the port Readiness Working Group to assure coordination in these movements. The Working Group is comprised of representatives from the Coast Guard (USCG), Military Sealift Command (MSC), Naval Control of Shipping Organization (NCSORG), Maritime Administration (MARAD), the Military Traffic

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Management Command (MTMC), and the U.S. Army Corps of Engineers (USACE). At the same time the Coast Guard continued to work with the Department of Defense on developing effective port security equipment to assure that adequate and coordinated port security measures are taken during the deployment of combat equipment and cargo through commercial ports.

Incident reports submitted directly to the Department of Transportation by carriers indicate there were eleven vessel mode hazardous materials incidents in 1984. One incident resulted in one fatality and several injuries. The fatal incident occurred on July 27, 1984, near Houston, Texas, when a shipping container of aluminum phosphide was punctured by a front-end loader causing an explosion which killed one dockworker and injured eight others. The container of nearly 7,000 canisters of aluminum phosphide posed a very hazardous situation. A major hazardous waste incinerator facility declined to accept the material and Texas officials vetoed the idea of transporting it across the State to a landfill. When some of the canisters taken from the shipping container started to heat up, the Coast Guard filed for and received an emergency ocean dumping permit to dispose of the material in the Gulf of Mexico, approximately 110 miles south of Galveston. Coast Guard surveillance of the dumping operation included 3 vessels, 6 aircraft, and 9 shipriders, with an expenditure of 9,287 man-hours.

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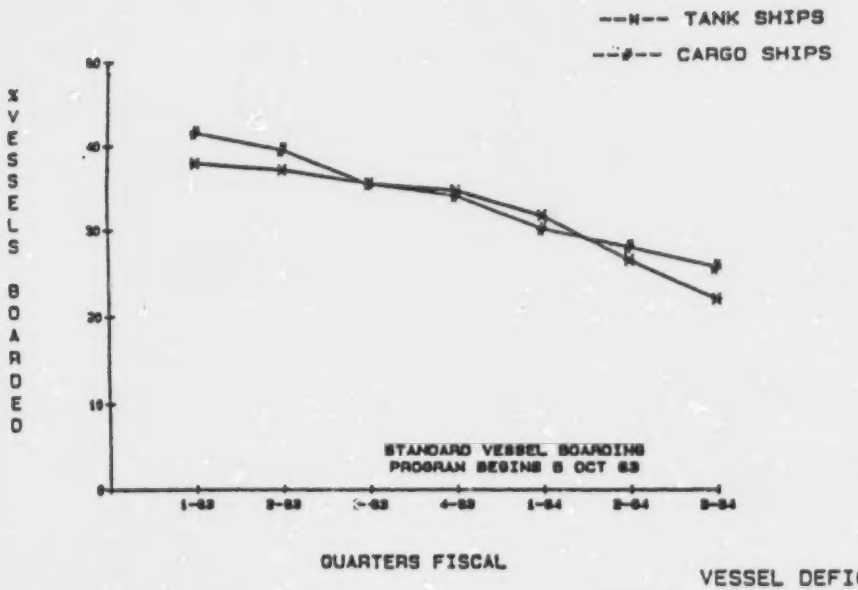
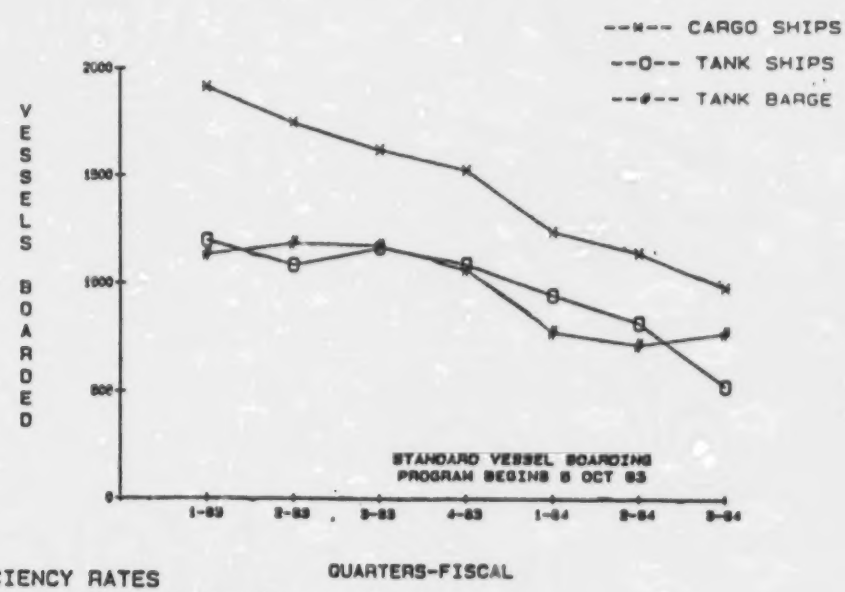
COAST GUARD VESSEL BOARDING ACTIVITIES

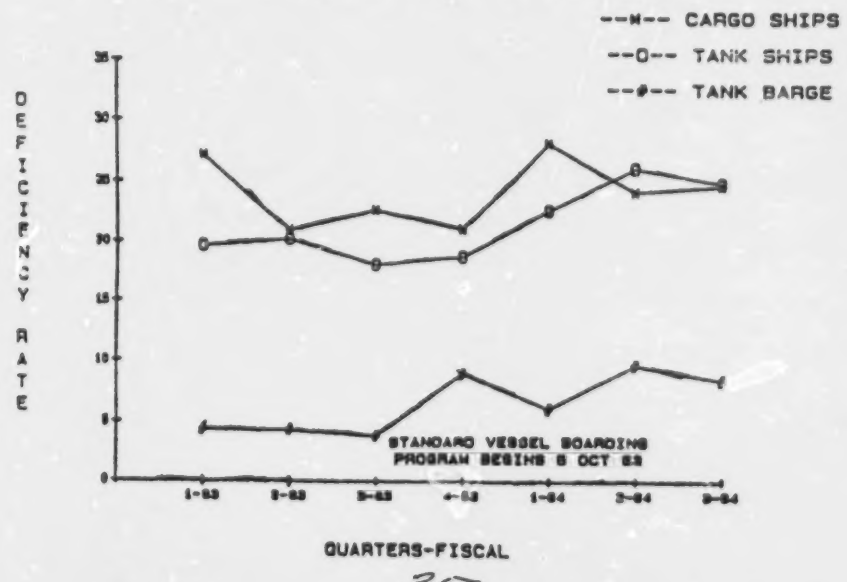
PERCENT OF VESSELS BOARDED



NUMBER OF VESSELS BOARDED



VESSEL DEFICIENCY RATES
(Number Deficiencies per 100 Boardings)



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Within the FAA, hazardous material inspections are performed by Civil Aviation Security Special Agents in conjunction with regularly scheduled security inspections of air carriers and airports. At a minimun, inspections are conducted of all air carriers, both U.S. and foreign, where it is determined that the air carrier (passenger of cargo) regularly transports or handles hazardous materials. These inspections are conducted at a frequency based on a review and analysis of prior hazardous materials shipments, incident experience, past problem areas, and violation history. In order to determine compliance effectiveness and ensure that freight forwarders and shippers meet their basic responsibilities in the shipment of hazardous materials by air, continuing inspection efforts have been made at major airports and air carriers facilities. These locations are considered collection points for shipments originating from many freight forwarders and shippers. When it is noted that problems exist with a particular company, inspections and training assistance can be directed to the problem areas concerned.

Two Washington headquarters and nine regional positions are assigned full-time hazardous materials duties. Within the FAA regions, there are 102 inspectors who conduct hazardous materials inspection/surveillance activities along with their civil aviation security duties. Yearly workhours expended during 4,130 inspection/ surveillance activities exceeded 4,804 hours. Approximately 4,048 additional hours were expended in the conduct of investigations and administrative actions resulting from hazardous materials violation

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investigations. This equals about 4 percent of inspection workhours available. A total of 15 workyears have been expended by FAA in the hazardous materials complianmce and enforcement program during 1984.

During 1984, 4,130 hazardous materials inspections were conducted by the Office of Civil Aviation Security. That effort included inspection of 3,818 operator/air carrier facilities, 312 freight forwarder/shippers, 9,660 individual hazardous material packages with shipping documents and resulted in detection of 407 hazardous materials violations. Fifty-one hazardous materials incidents were investigated, resulting in identification of 63 violations.

Described below are significant hazardous materials enforcement cases handled in 1984:

1. A foreign air carrier paid a $32,000 fine for accepting and transporting 12 shipments of radioactive material on a passenger-carrying aircraft which were not authorized carriage. The shipments were not accompanied by the proper certificates and were in excess of the prescribed amounts authorized for transport bv air.

2. A major oil company paid $22,500 for offering a 1-gallon can of Naphtha which was not properly labeled with "Cargo-Only Aircraft" nor was the shipping document marked with the same. While in transport, the container leaked, forcing the aircraft to make an emergency landing. It was found that the reason for the leakage was an improperly secured lid.

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3. A domestic air carrier paid an $8,000 fine for accepting and transporting 10 5-gallon drums of Toluene and 10 5-gallon drums of Methyl Ethyl Ketone on a passenger-carrying aircraft. By regulation, 1 quart is the maximum net quantity of Toluene or Methyl Ethyl Ketone permitted per package for transport on board a passenger-carrying aircraft. Further investigation revealed that the shipping papers were incomplete and the packagings were not authorized for the products being shipped.

4. A major industrial company paid a $14,000 fine for offering a package which contained two inner receptacles of radioactive materials. The outside package was not properly marked or labeled, nor did the shipper's certificate include the required information.

The Federal Railroad Administration maintains a complement of 34 full-time hazardous materials inspectors with additional support from another 166 motive power and equipment inspectors who are primarily engaged in carrying out enforcement responsibilities under the Federal Railroad Safety Act of 1970. Inspection emphasis is directed to rail shipper facilities, carrier handling and billing procedures, freight forwarders and container manufacturers.

Derailments and leakage incidents involving bulk shipments of hazardous materials during rail transportation continue to be of primary concern to the Federal Railroad Administration. Injuries to

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railroad personnel as a result of undesired release of commodity through safety relief devices have resulted in increased shipper inspections to determine that proper maintenance and car preparation are accomplished prior to rail carrier transportation. In 1984, 2,300 shipper inspections where conducted. This is an increase of approximately six percent over 1983. Increased hazardous materials shipments in trailer-on-flatcar (TOFC) and container-on-flatcar (COFC) service are also major concerns. Freight forwarder inspections have increased 25 percent over 1983. The improper placement of cars, which previously contained hazardous materials, in the consist of a train remains one of the most frequent violations. Civil claims settled in 1984 for this type of violation totaled $454,300.

In 1984, RSPA expanded its shipment observation activity to include the broader spectrum of multi-modal shipments of hazardous materials. This new focus has served to extend the RSPA inspection presence at freight facilities such as airports, marine facilities and motor carrier freight docks, where these multi-modal shipments are moving. By placing inspectors at these facilities, shipments can be observed for compliance with applicable regulations in the broader context of a total transportation system that transcends modal jurisdictional limitations. The result is a capability to detect possible problems that would warrant further investigation and/or enforcement action.

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A key to the effectiveness of RSPA's enforcement program has been its interaction and coordination of enforcement efforts with other modal administrations and other Federal agencies. Particularly noteworthy was RSPA's assistance to the Bureau of Alcohol, Tobacco and Firearms (BATF) in its investigation of the abortion clinic bombings. At the BATF's request RSPA staff was able to identify and trace compressed gas cylinders used in the Montgomery County, Md. bombing from fragments of the devices found at the scene.

In another instance, joint investigations with the Bureau of Motor Carrier Safety of shipments of radio-pharmaceuticals and high activity radioisotopes being transported into Mexico resulted in a number of Notices of Probable Violations being issued for infractions of the regulations. These violations included improper spacing of radioactive materials in the vehicle, incorrect shipping papers, failure to placard the vehicle and failure to maintain radiation limits as low as reasonably achievable. Preliminary penalties for these violations ranged from $4,000 to $10,000.

Hazardous Materials, by definition, demand the most stringent packaging, containerization, and shipping requirements if the public is to be adequately protected from the risks inherent in the movement of these commodities. RSPA's enforcement responsibility is one of oversight over the manufacture of such shipping containers and the proper application of exemptions to the regulations. In addition to its fixed responsibility for container and packaging manufacture, RSPA

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also has a degree of responsibility for compliance with hazardous material regulations from trip origin to destination. This includes assuring that: the container manufacturer has properly manufactured, fabricated, marked, tested, reconditioned or rebuilt containers that are used in transportation; the manufacturer has properly classified, described, packaged, marked, and labeled the product, and that it is adequately prepared for transportation; and the carrier or combination of carriers properly transports it to its destination.

Inspection of container manufacturers is a time-consuming activity and involves, at a minimum, site inspection, detailed audits of manufacturers' records, and highly technical product testing and quality control. RSPA's enforcement staff of one part-time and seven full-time inspectors expended a total of 7.5 work years in 1984 on 843 inspections, initiated 17 civil penalty causes, issued 93 warnings, and collected $26,425 in penalties. MTB also collects fees in settlement of cases closed without prejudice to the respondent. $6,000 was collected in 1983 in satisfaction of one such case and $1,000 was collected in 1984.

In 1984 the combined inspection resources of the Department's administrations expended 111 work years performing 108,588 inspections of facilities and carriers, investigating 755 incidents, initiating 359 civil penalty actions against violators of the hazardous materials regulations and collecting $885,345 in settlement of civil sanctions. A delineation of these actions by mode appears in Tables 2 and 3.

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Table II
Hazardous Materials Enforcement Actions by Operating Administration 1983-1984

Enforcement Actions	FAA		FHWA		FRA		RSPA		USCG	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
Criminal Cases Initiated	2	2								
Criminal Cases Completed	1	2								
Total Fines ($)	20,000	6,000								
Civil Penalty Actions Initiated	131	78	56	124	51	62	8	17	101	78
Civil Penalty Actions Completed	63	58	48	82	85	80	8	6		
Violations Noted and Corrected									240	200
Letters of Warning Issued							65	93	60	72
Total Civil Penalties Collected ($)	140,250	167,935	183,700	237,685	314,475	454,300	15,000	25,425	*	*
Average Penalty ($)	2,226	2,895	3,827	2,898	3,700	5,679	1,875	4,238	*	*

* Not Available

Table III
Hazardous Materials Inspections and Investigations by Mode 1983-1984

Category	USCG		FAA		FHWA		FRA		RSPA	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
Operations/Facilities										
Carriers			4,055	3,818	3,369	2,957	3,976	4,382		
Shippers			181		2,758	2,808	2,064	2,300	89	112
Waterfront	662	828								
Container Manufacturers							45	102	64	42
Drum Reconditioners									13	15
Cylinder Retesters									11	20
Shipment Observations									40	559
Freight Forwarders				312			108	135		
Packages/Shipping Documents			10,286	9,660						
Other									31	96
Vehicles/Vessels										
Railroad Tank Cars							31,641	40,820		
Railroad Freight Cars							10,547	13,001		
Vessels	23,711	20,297								
Motor Vehicles					7,536	6,325				
Accidents/Incidents	16	4	54	51	153	147	426	553		
Total	24,389	21,129	14,576	13,841	13,816	12,237	48,807	61,293	198	853

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SAFETY STATISTICS

A decade of incident safety statistics displayed in Table IV reveals a consistent decline in the total number of reported incidents involving hazardous materials since 1979 and, the 1984 aggregate data reflects that continuing downward trend despite a 13% increase in rail and a 50% increase in air incidents. It is also noteworthy that the number of fatalities remains consistently low. The seven fatalities in 1984 were the lowest number recorded since 1974, and these combined with the years' 242 injuries were attributable to 144 incidents---.02% of the total number of incidents reported for 1984. Historically, highway transportation leads all modes in the frequency of hazardous materials related incidents and 1984 was no exception. The 4,307 reported highway hazardous materials transportation incidents and the resulting six fatalities, however, continued the downward trend that began in 1978.

The substantial increase in damage estimates for air was the outgrowth of one incident involving a shipment of hydrofluoric acid. The carrier maintained that the leaking acid caused the total loss of the DC-3 aircraft, and registered a preliminary estimate of damage at $500,000.

Safety statistics by mode for years 1974-1984 are displayed in Table IV.

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Table IV
Safety Statistics by Mode by Reporting Year

Incidents

Mode	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
Air	157	152	90	130	231	284	233	160	97	66	104	1,704
Highway	7,612	9,891	10,772	14,250	16,548	15,978	14,484	7,704	5,647	4,829	4,307	112,022
Rail	616	676	982	1,500	1,191	1,215	1,327	1,131	831	861	963	11,283
Water	26	32	13	50	47	34	42	7	9	13	11	284
Freight Forwarder	2	6	11	20	5	2	1	3	6	1	120	177
Other	15	12	21	0	0	11	28	58	3	1	7	156
Totals	8,428	10,769	11,889	15,960	18,022	17,524	16,115	9,063	6,593	5,761	5,512	109,648

Fatalities

Mode	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
Air	4	0	0	0	0	0	0	0	0	0	0	4
Highway	18	27	16	31	20	18	17	27	12	8	6	200
Rail	10	0	2	1	26	0	2	0	0	0	0	41
Water	0	0	0	0	0	0	0	0	0	0	1	1
Freight Forwarder	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
Totals	32	27	18	32	46	18	19	27	12	8	7	246

Injuries

Mode	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
Air	5	4	4	9	43	13	8	7	0	0	12	105
Highway	281	487	617	507	594	697	481	397	93	122	140	4,416
Rail	596	96	198	233	482	228	129	221	36	69	69	2,357
Water	17	2	1	0	10	1	1	0	1	0	18	51
Freight Forwarder	4	15	0	0	1	0	1	0	0	0	3	24
Other	0	51	0	0	0	2	2	18	0	0	0	73
Totals	903	655	820	749	1,130	941	622	643	130	191	242	7,026

Damages ($'s)

Mode	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
Air	4,511,708	9,159	20,512	28,686	6,834	30,312	12,486	6,660	28,001	51,875	554,326	5,260,559
Highway	4,774,156	5,602,616	5,674,566	8,628,651	11,259,906	8,925,269	7,323,628	12,673,481	11,409,130	9,052,062	13,352,817	98,676,281
Rail	11,965,143	1,481,995	2,294,633	7,815,243	6,848,364	5,781,500	2,834,030	2,652,827	4,083,195	2,590,747	3,376,817	51,724,494
Water	20,117	6,331	5,270	18,258	17,912	30,364	507,427	53,045	30,000	80,088	513,517	1,282,329
Freight Forwarder	0	3,345	405	351	160	0	100	6,500	35	300	10,023	21,219
Other	13,035	182	3,788	9,700	0	5,100	29,366	69,108	200	16,500	975	147,954
Totals	21,284,159	7,103,628	7,999,173	16,500,889	18,133,176	14,772,545	10,707,037	15,461,621	15,550,561	11,791,572	17,808,475	157,112,836

Figure II
Hazardous Materials Incidents, 1974–1984

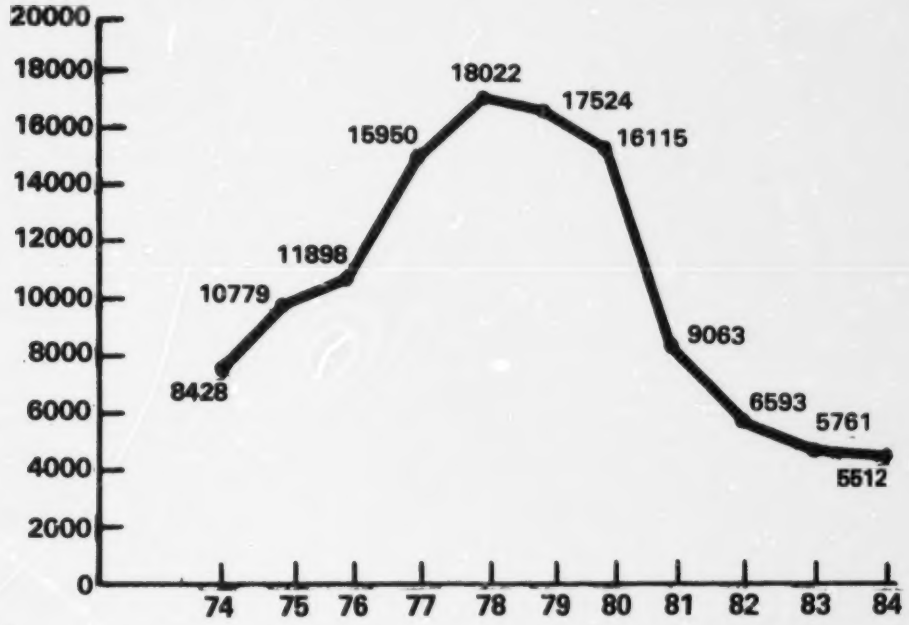

Figure III
Hazardous Materials Fatalities, 1974–1984

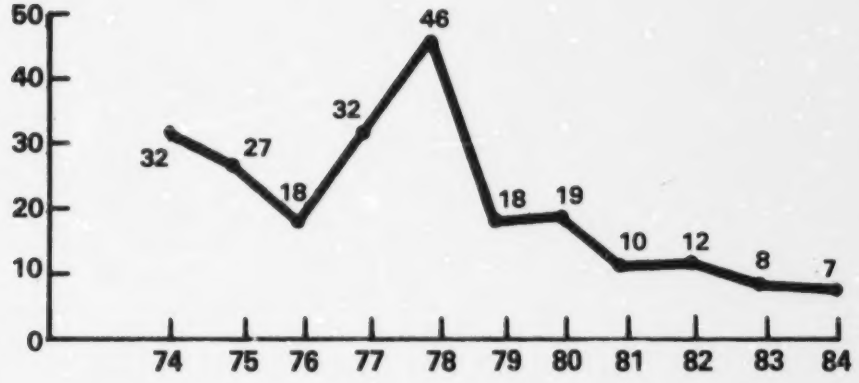

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Figure IV
Reported Incidents by Rail

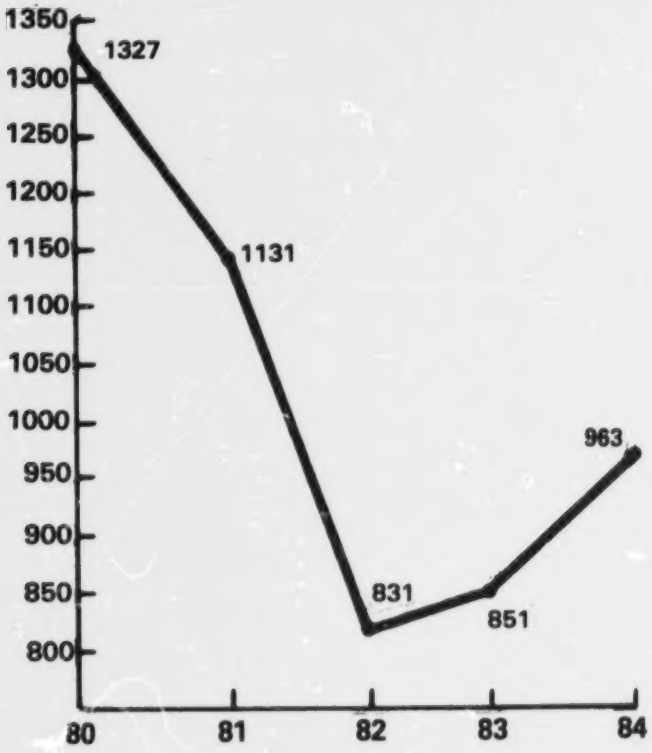

Figure V
Reported Incidents by Water

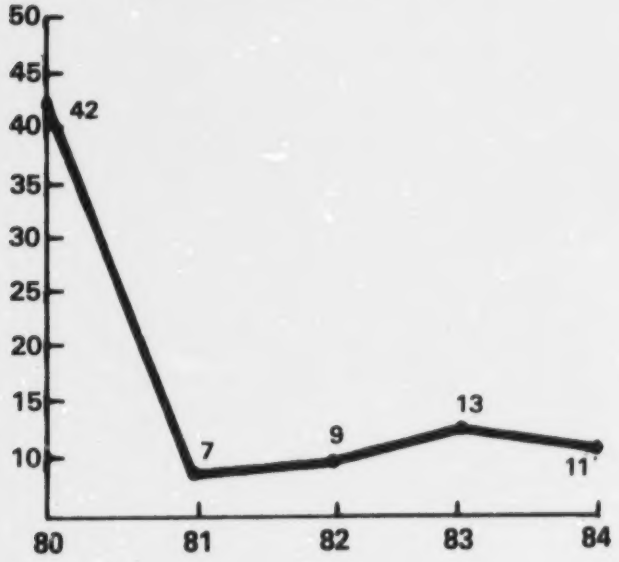

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Figure VI
Reported Incidents by Air

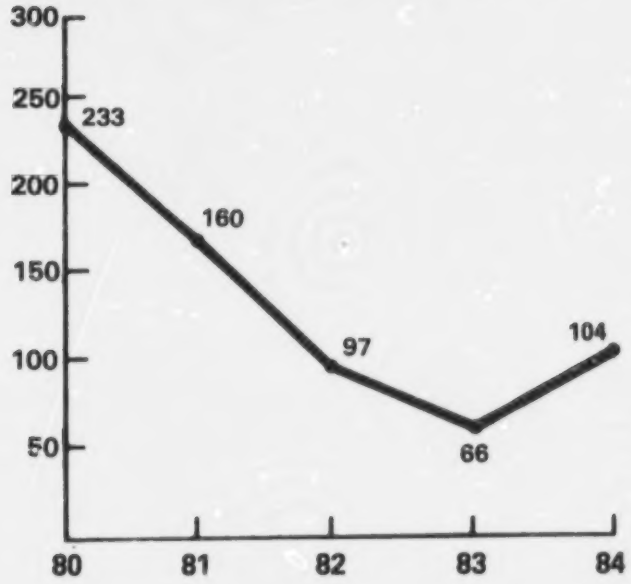
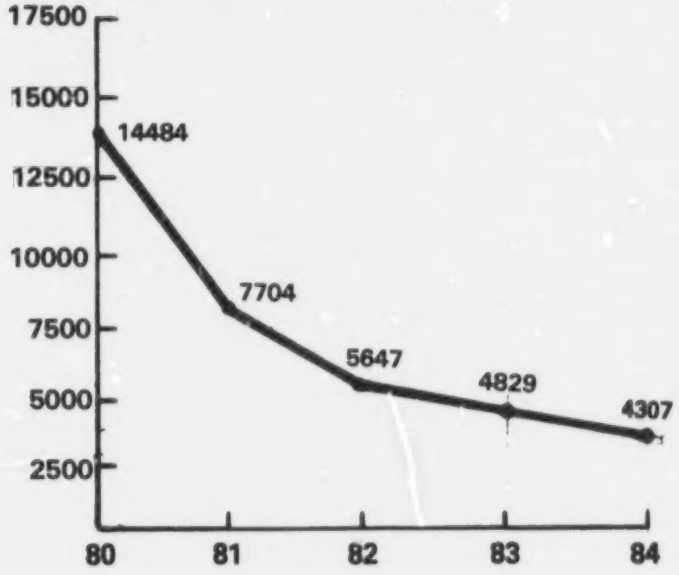


Figure VII
Reported Incidents by Highway



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TRAINING AND EDUCATION

Training and education are an integral part of the Department's regulatory program. To promote compliance with the hazardous materials regulations the Department sponsors a number of training and information dissemination activities designed to familiarize industry personnel with the requirements of the regulations and to educate government inspectors in enforcement procedures. The primary source for this training, the Department's Transportation Safety Institute (TSI) located in Oklahoma City, receives financial and technical support from the operating administrations to provide instruction on individual modal regulatory responsibilities.

As was originally designed, all training in the hazardous materials discipline was conducted at TSI. In recent years, however, State and Federal financial constraints began to be reflected in a steady decline in enrollments at centralized assembled training. In 1983 MTB launched an alternative approach to the delivery of training--that of taking the training to the student. Courses were conducted at state selected sites around the country. This innovative approach met with unqualified success in 1984. A record 2,446 persons received MTB sponsored hazardous materials training during the year--the largest number in the history of the Transportation Safety Institute. Unquestionably this record attendance is attributable in large measure to the availability of training at regional sites requiring a minimum expenditure of travel time and cost to attendees. The following graph shows the dramatic increase in attendees since MTB initiated the regional site training program.

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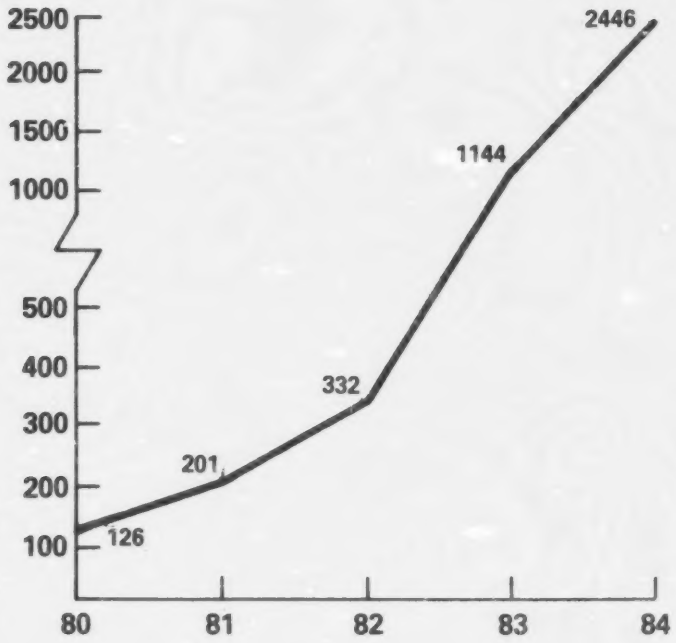
Figure VIII
Five Year Summary of Attendees at RSPA Sponsored Hazardous Materials Training



While increasing numbers of Department of Defense personnel attended training this year and requests for additional classes continue to be received, the single largest beneficiary of this training remains the States. The majority of State personnel that have already received this training come from States that have ongoing enforcement programs. However, several States are just now organizing and developing inspection and enforcement programs and the Motor Carrier Safety Assistance Program is expected to increase the demand for training especially from those States.

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Some of this demand will most certainly be satisfied through the "train-the-trainer" concept of expanding the availability of instruction through utilization of trainers culled from the ranks of enforcement personnel or experienced local instructors. The advantages of this approach are enormous. State and local entities select individuals who, in addition to having completed the basic compliance and enforcement course, undergo in-depth instruction in the use of the course material used by TSI instructors. This trainers course gives students the necessary knowledge to conduct the three phase hazardous materials course and also the opportunity to demonstrate their understanding of the course material and their ability to convey this information to others. This system creates a cadre of "in house" instructors capable of reaching wider audiences and, in so doing, achieves a greater enforcement and inspection expertise than could be reached by MTB/TSI's limited training staff. And, uniformity and consistency in enforcement is assured through the use of MTB-developed course material. Interest in this course is running high with several States already expressing a desire to sponsor the course at a location which will permit several nearby States to send students. This "train-the trainer" course along with the two-phase basic enforcement and cargo tank courses, shortened through the institution of a home study phase, are all positive actions by MTB to ensure the widest possible delivery of safety training without a commensurate increase in cost. The locations of MTB/State sponsored training are displayed on the following map.

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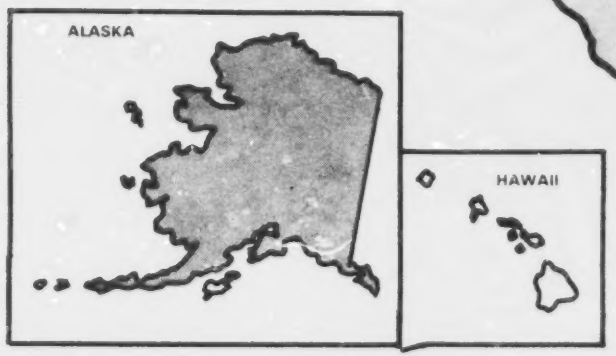
Sites of MTB/TSI Delivered
Hazardous Materials Transportation Training
1984



Sites of MTB/TSI Delivered Training

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In order to ensure that FAA inspectors are kept current with the ever changing hazardous materials regulations and the new international regulations, FAA requires that their inspectors continually involve themselves in the conduct of inspections and attend the basic 2-week hazardous materials training course. Additionally, they are required to attend the recurrent 1-week training course every 24 months.

The FAA has also effected a significant revision to their inspector training courses conducted at the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma. This revision was made necessary by the requirement to ensure that the provisions of the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, which became effective on January 1, 1984, and are optional to the shipper, were being complied with by those utilizing this regulation. The courses were restructured to incorporate six hours of instruction dealing with the provisions of the ICAO Technical Instructions. It is believed that this revision will better enable the inspector to accomplish his/her inspection duties while having the added bonus of assisting those shippers and air carriers to better understand the intricacies of the ICAO Technical Instructions and their relationship to Title 49, Code of Federal Regulations (49 CFR).

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Regional personnel conducted 6 training sessions for 32 FAA inspectors and participated in 29 seminar/training sessions attended by 794 persons including operators, freightforwarders, shippers, and other aviation industries impacted by the HMR's.

The Coast Guard offered a variety of training programs for active duty personnel and reservists on such subjects as hazardous chemicals, explosive loading supervision, and port safety and security. These training programs were offered to over 1600 persons, including 785 active duty personnel, 803 reservists, and 24 civilian employees of other Federal agencies. Since many of the reservists trained are firefighters, law enforcement officers, or other emergency personnel in their local communities, this training is beneficial to them in their civilian occupations.

In addition to training enforcement personnel, MTB and the modal administrations routinely sponsor and participate in industry and public awareness meetings and seminars to foster a better understanding of, and compliance with, the hazardous materials regulations. The Federal Railroad Administration's field staff conducted and participated in 50 seminars attended by 1,749 fire and emergency response personnel; 66 rail carrier seminars attended by 6,107 carrier employees and officials, and offered two courses at TSI on Rail Transportation of Hazardous Materials, attended by 50 FRA and State enforcement personnel. The Federal Highway Administration's (FHWA) Motor Carrier Safety field staff conducted or participated in 657 such seminars covering portions of the Federal Motor Carrier Safety Regulations (FMCSR) and the Hazardous Materials Regulations (HMR). These seminars, attended by personnel from the motor carrier industry,

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shippers of hazardous materials, labor unions, and state and local governments, covered instructions in methods and procedures necessary to achieve compliance with applicable Federal regulations.

Information Dissemination

In addition to sponsoring classroom training, the Department of Transportation offers for use by those involved in hazardous materials transportation, a variety of pamphlets, charts, posters, fact sheets, newsletters, and other handout material and responds to an increasing number of public inquires for information, clarification or interpretation of various aspects of the Federal regulations. The Federal Highway Administration in 1984 responded to 6,989 such requests from State and local government agencies and over 83,000 public inquires concerning various aspects of motor transportation and the applicable Federal regulations. The monthly "Proceedings of the Marine Safety Council" is the medium through which the Coast Guard makes the maritime transportation industry aware of the health, safety, and pollution hazards associated with the transportation of chemicals and other hazardous materials by vessel. Field units also issue newsletters for the guidance of local maritime interests.

The MTB maintains approximately 40 different items of educational material including fact sheets, pamphlets, posters and publications on specific subjects, some of which are available in Spanish, for use in training programs or simply for public awareness purposes. In 1984 over one million pieces of these materials were distributed in response to approximately 12,600 requests. MTB also publishes a

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quarterly newsletter on issues of interest to the hazardous materials transportation community with a mailing list of over 5,000, and continues to receive enthusiastic response to the training film "Safe Transport" introduced in 1982 and viewed by over 30,000 persons within the continental U.S. as well as internationally.

The Emergency Response Guidebook remains MTB's most requested document. Updated in 1984 to reflect the introduction of new hazardous products into the market and/or new and improved methods of handling these products in an emergency, this guidebook has been translated, reproduced and distributed by Mexico, Sweden, and Japan, and Saudi Arabia is now in the process of translating it into Arabic. It lists all hazardous materials regulated by the Department of Transportation along with suggested initial response actions in the event of an incident (spill, explosion, fire) involving these products. It is made available free to first responders to such incidents--police, fire and other emergency response personnel throughout the United States with over 2 million copies having been distributed since 1983.

The Department is firmly committed to the concept of safe-guarding the public from the dangers incident to the transportation of hazardous materials through education as well as regulation. This commitment is reflected in the continuing revision, update and issuance of publications that keep the regulated community informed of changes in a very fluid industry and also addresses the emerging

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needs of various segments of the population. Three such publications were issued in 1984--two Guides to Inspection--one for shipments of radioactive materials and the other for shipments of other hazardous materials, and a manual "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials". The Guides describe sequential actions to be taken during an inspection while encouraging the most efficient use of inspection time. States have the option of modifying these documents to meet their unique needs.

The Manual offers state officials a methodology for analyzing and comparing safety factors of alternative routes in the selection of preferred routes for the movements of shipments of radioactive materials. In recognition of the many site-specific factors involved in selecting the safest available highway routes, DOT strongly encourages states to examine their own highway systems to designate "preferred routes" to supplement the federally-prescribed Interstate highway system.

The FAA amended and rewrote its Hazardous Materials Order (FAA Order 16590.9A) to align it with the Civil Aviation Security Program guidelines (FAA Order 1650.7) and to incorporate the provisions of the newly adopted ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. This order outlines objectives, defines

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responsibilities, and establishes procedures relating to the administration of the FAA's Hazardous Materials Program and outlines basic procedures for use in the inspection and enforcement of the Hazardous Materials Regulations (HMR) as they apply to air transportation. The new Order also takes into account the new provisions of the 49 CFR, which authorize the optional use of the ICAO Technical Instructions. A new chapter has been added dealing with compliance and enforcement aspects as well as other changes which technically define the overall responsibilities for the various aspects of the FAA's Hazardous Materials Compliance and Enforcement Program.

The FAA also rewrote their Advisory Circular (AC 121-21B) dealing with training programs and manual requirements for those air carriers that regularly accept and transport hazardous materials and those that do not. This update was necessary to advise operators of the amendments and changes to the existing U.S. regulations and to address the requirements of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. To highlight the similarity between the 49 CFR and the ICAO Technical Instructions, the advisory circular included a cross-reference chart dealing with the subjects which should be addressed during training.

A second Advisory Circular (AC 121-27) providing sources of information to air carriers, freight forwarders, and shippers for obtaining information dealing with the transportation of hazardous

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materials by air was also published in 1984. This document reviews the various references dealing with the offering, accepting, storing, and carrying of hazardous materials and defines the responsibilities of those involved; provides an outline of the regulatory requirements which must be met to assure compliance with the national and international regulations; addresses the training material which has been jointly developed by ICAO and the International Air Transport Association, and provides the main sources which may be contacted to obtain the specific information desired. An appendix which provides a geographical map outlining the FAA regions and a listing of addresses and telephone numbers of the Hazardous Materials Coordinators for each region has been added to both Circulars. This has been particularly helpful to the shipping public in obtaining needed information and clarification.

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RESEARCH AND TECHNOLOGY

The Department of Transportation's hazardous materials research and technology program provides technical support for development, modification, and interpretation of the hazardous materials regulations and for enforcement activities. Research is conducted to find answers to special problems or to address unique safety concerns where current regulations may not fully provide for technological advances and to evaluate the feasibility of enforcement actions. Transportation of hazardous materials is a multimodal activity; therefore, the Department's research and technology initiatives span all modes, address a multiplicity of issues that reflect individual modal commitment to improving safety and efficiency, and run the gamut from routine performance testing to the more complex applied research programs. Highlights of MTB's 1984 research activities follow:

IM 102 Portable Tank--Continued the static and dynamic testing of the 102 intermodal portable tank to assess its structural integrity. This assessment of a very thin-walled bulk tank is necessary to facilitate greater international standardization of hazardous materials packaging and consequently greater international trade.

Equivalent Material Elongation--Continued the development of a correlation for equivalent material elongation (an important measure of a material's ability to deform before failure) among DOT, American

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Society for Testing and Materials and International Standards Organization specimens. Such a correlation will facilitate greater international standardization, and may result in the authorization of alternate test methods and consequently greater flexibility and cost saving for cylinder manufacturers.

Evaluation of Projection Hazards of Small Arms Ammunition--Tests were conducted to determine whether ordinary small arms ammunition met the United Nations criteria 1.45. Preliminary results indicated that the United Nations' testing criteria does not adequately address all types of small arms ammunition. The MTB is considering proposing a modified test criteria to the United Nations Committee of Experts on Dangerous Goods.

Completion of a Radioactive Materials Transport Survey--A survey was conducted which developed a statistical data base to describe the types and quantities of radioactive materials transported in the U.S. The project was jointly sponsored by the Department, the Nuclear Regulatory Commission, the Federal Emergency Management Agency, and the Department of Energy. Information is presented on the identity of radionuclides, the activity per package, physical form of the material, label category, package type and total numbers of packages shipped in the U.S. A computer data base of this information will also be available for future analyses.

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Evaluation of Impact of UN Performance-Oriented Standards on US Packagings--To evaluate the impact of UN Performance-Oriented Standards on U.S. packagings, drop, stacking, and hydrostatic pressure tests (conforming to the criteria in proposed HM-181), were performed on a variety of types and configurations of DOT specification fiberboard boxes and steel drums. A majority of the boxes and drums tested failed the drop test requirements, whereas the stacking and hydrostatic tests yielded satisfactory results. Most of the packagings tested have demonstrated good in-service performance in actual normal transportation. The test results, however, indicate that these packagings are not adequate to survive handling accidents that are likely to occur in transportation, i.e. drops of 3 feet or more.

Other MTB initiated research projects included:

a. Evaluation of thermal radiation hazard of certain alcohol-web nitrocellulose products.
b. Analysis of explosives transportation hazards.
c. Evaluation of proposed test methods for defining flammable solids.
d. Evaluation of materials and test procedures for Pressure Vessels.
e. Verification of Type A package limits for over 270 radionuclides in support of international activities.

MTB also collaborated with, and provided substantial support to, Federal Highway Administration on studies related to the integrity of MC 307/312/330/331 cargo tanks; corrosion integrity of cargo tanks; liquid cargo shifting and stability of cargo tank trucks.

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Cargo Tank Integrity

During 1984 the BMCS continued, completed, or initiated various phases of a comprehensive long-term research project evaluating the integrity of cargo tanks. A 27 month study of "Integrity of MC 330/331 Cargo Tanks" was completed. This project evaluated fabrication, carrier, and shipper practices; performed inspection and testing; and was the subject of an industry conference. A number of recommendations evolved from this research, including a number of maintenance, record keeping, and inspection improvements; additional tank requalification procedures requiring the removal and test of safety relief valves; additional testing when a tank is in contaminated product services, specific qualification criteria for nondestructive examination personnel; and tank requalification by an authorized inspection agency. Evaluation of these cargo tanks under load and road stress conditions utilizing a computer stress analysis was also completed, with a report on the results of the computer analysis due in 1985. Corrosion resistance of these tanks is the subject of the next phase of this comprehensive cargo tank study. Begun in 1984, this study will assess the extent and rate of corrosion deterioration in existing cargo tanks; evaluate detection and monitoring techniques and explore various preventative measures for controlling corrosion. The major portion of a similar evaluative study of the MC 307/312 cargo tank class was also completed. The results of that project are expected to be available in 1985.

The Coast Guard continued two research projects designed to investigate the particular dangers involved in marine transportation

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of hazardous materials. One project was to identify hazards posed by chemical vapors released in marine operations. The other was a study to improve the health and safety of marine crews and dock-side personnel working in hazardous environments.

FRA continued research on tank car damage assessment to determine critical flaw size for damaged tank cars and completed three other research projects in 1984:

1. Small scale impact test on tank car heads to evaluate the effect of mitigating materials used with head shields to increase the puncture resistance of tank car heads.

2. A joint program with the U.S. Air Force to develop guidelines for emergency response personnel responding to rail accidents involving hazardous materials.

3. Testing for alternate thermal insulation systems for chlorine tank cars, jointly with AAR/RPI Tank Car Committee.

The FRA's Office of Research and Development will continue to look at tank cars carrying hazardous materials to ensure that adequate safety is provided. Testing using the FRA's Torch Test Facility has just been completed on chlorine tank car thermal insulation systems. The current urethane foam insulation, as well as three candidate alternate insulation systems were tested to determine if the back plate, i.e., inside tank car

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wall, temperature could be maintained below 483°F, the temperature at which an erosion reaction begins between chlorine vapor and steel. The final report is being prepared by the test contractor.

Another test program involves puncture resistance testing of chlorine tank cars to determine if addition protection is required to provide the same protection as required for DOT 112/114 cars. Scale model and full scale tests of both DOT 105 cars and DOT 112 cars with head shields will be conducted beginning in the third quarter of FY 85. A contract has recently been awarded for testing of scale model aluminum tank car heads to begin in early 1985, as well as torch and pool fire testing of aluminum tank cars.

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PROGRAM DIRECTION AND ISSUES

Constituency Outreach Federal/State Cooperation

While the safe transportation of hazardous materials is a subject of national dimensions and demands national attention, the Department believes that more can be accomplished in the entire scheme of transportation safety through sustained, committed, and effective regional involvement. To complement its regulatory role, the Federal government, therefore, should provide innovative leadership in promoting transportation safety; encourage States to assume more responsibility for transportation safety within their jurisdictions; provide, as needed, the technical and financial assistance for developing appropriate programs; and when these programs are in place and operational, maintain a supportive role.

In recent years, MTB has nurtured a Federal/State/local partnership that has produced a hazardous materials regulation enforcement capability at the State level; has stimulated, at the local level, an awareness of the efficacy of accident prevention and emergency response preparedness; produced and deepened a dialogue among industry, Federal government, and regional lawmakers, and other officials on hazardous materials transportation issues and solutions; and created a National Hazardous Materials Transportation Advisory Committee that will serve as a forum to promote continuing dialogue among these parties.

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Transportation of Nuclear Waste

The Nuclear Waste Policy Act of 1982 (NWPA) provides for the development of repositories for high-level nuclear waste and spent nuclear fuel and establishes a program of research and development for the disposal of nuclear waste and spent fuel. The Department of Energy is given the broad responsibility to carry out these programs, subject to regulation by the Nuclear Regulatory Commission, Environmental Protection Agency, and the Department of Transportation.

Under the NWPA (Section 137(a)), the DOT has two primary responsibilities. The first is to ensure that the Department of Energy's (DOE) spent fuel shipments are conducted in accordance with licensing and regulatory requirements that exist for commercial spent nuclear fuel. This responsibility is consistent with DOT's basic hazardous material transport regulatory function. The second responsibility relates to the use of private industry in providing transportation services to the DOE. This provision of the NWPA is a new DOT responsibility and presents a number of challenges for the Department. The Department must develop the capability to determine the ability of the private sector to provide these services. These responsibilities have led to heightened coordination and liaison with other Federal agencies. In addition, a number of States have shown increasing concern about the transportation aspect and that has generated increased dialogue with States on the delineation of Federal/State roles in this arena.

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RSPA has sought, through participation in regional conferences with interested groups, to diffuse the highly emotional concerns surrounding the potential risk associated with the transportation of this spent fuel. Such conferences were held in Spokane, Washington, Las Vegas, Nevada and with the Salt States, i.e., states with geologic salt formations being considered as possible candidates for a permanent repository under the Nuclear Waste Policy Act.

State Hazardous Materials Enforcement Development (SHMED) Program

The SHMED program established in 1981 was designed to encourage states to assume more responsibility for hazardous materials transportation enforcement within their jurisdictions through adoption and enforcement of Federal Hazardous Materials Regulations. Under this program individual contracts, incrementally funded for three years, were awarded to States to develop, implement, and operate hazardous materials inspection and enforcement programs. At its peak in 1983, 25 states were participants in the program. With the original 3 year contracts coming to an end in FY 1984 the number of participating states dropped to 22.

A significant product of the SHMED program has been the development of inspection guidance materials. As a follow-on to the successful "Guide for the Inspection of Hazardous Materials Shipment," a new issue, "Guide for the Inspection of Radioactive

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Materials Shipments" was produced, and work was begun on the "Guide for the Inspection of DOT Specification 306 Cargo Tanks." These guides, available to all Federal and State enforcement personnel help bring uniformity to the inspection process. An example of the impact of the guides was illustrated when they were used by the Commercial Vehicle Safety Alliance (CVSA) in a meeting with RSPA and FHWA personnel as a basis to develop inspection procedures and out of service criteria for shipments of hazardous materials. The resulting standards adopted by CVSA, with RSPA and FHWA concurrence, are an instrumental step in developing a truly national inspection and out of service criteria.

It has been RSPA's commitment through the SHMED program to provide the States with an opportunity to implement an effective hazardous materials inspection/enforcement program that would continue without the financial assistance of the SHMED program. 1984 marked the first year of Federal financial disengagement in this program. RSPA will continue, however, to lend leadership and guidance to all states in hazardous materials transportation safety. RSPA believes that despite the phasing out of the SHMED program, there is an availability of Federal funds under the MCSAP program which may be used by states to support inspection and enforcement activity in the area of hazardous materials transportation, and is working with FHWA in this regard.

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Appendix A

RULEMAKING PUBLICATIONS ISSUED
During 1984

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Appendix A
RULEMAKING PUBLICATIONS ISSUED DURING 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-115 Cryogenic Liquids	6/12/84 10/24/84 11/1/84	Final Rule Corrections and Revisions	Finalized specific guidelines, and established a new DOT cargo tank specification for the MC-338 cryogenic cargo tank (until now cryogenic cargo tanks were built under DOT exemption) and added greater flexibility in the use of DOT-113 tank cars and DOT-4L cylinders used in cryogenic liquid service. As a result of this rulemaking, 88 exemptions were eliminated.
HM-139-F Conversion of Individual Exemptions into Regulations of General Applicability	1/19/84 1/26/84	Final Rule Correction	Continuing regulatory amendments to eliminate exemptions and make alternative shipping methods available to the general shipping industry.
HM-166-0 Deletion of Certain Commodity Entries	4/11/84	Correction - Reconsideration	Deletes certain entries from the Hazardous Materials Table (172.101) and amends certain sections in Part 173 as a result of the deletions in the Table.
HM-166-Q Exceptions for Small Quantities of Poison B Materials	5/4/84	Correction	Corrects the final rule for small quantities of Poison B materials in 49 CFR 173.4(a)(1)(iii).

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Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-189A Hazardous Materials Regulations, Editorial Corrections and Clarifications	2/29/84	Final Rule	To correct certain editorial errors, and to make minor regulatory changes to the HMR.
HM-189-B Hazardous Materials Regulations, Editorial Corrections and Clarifications	9/27/84	Final Rule	To correct certain editorial errors, and to make minor regulatory changes to the HMR.
HM-145D Hazardous Waste Manifest; Shipping Papers	3/20/84 3/26/84	Final Rule Correction	Published requirements for a uniform hazardous waste manifest to assure uniform enforcement and to resolve difficulties encountered by shippers and carriers involved in the transportation of hazarous waste.
HM-185 Standards for Polyethylene Packagings	6/14/84 10/12/84	Final Rule Revision - Reconsideration	Authorizes DOT Specification 34 polyethylene drums of 55 gallons maximum capacity and added authorization for use of Specification 34 for a number of materials previously authorized in polyethylene drums only under exemptions.

Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-174 Specifications for Tank Cars	1/27/84	Final Rule	Provides an option for safety relief valve sizing for DOT Specification 105J tank cars built after February 29, 1984 to transport ethylene oxide.
HM-175 Specification for Railroad Tank Cars used to Transport Hazardous Materials;	1/27/84	Final Rule	Amends 49 CFR by improving the construction standards applicable to certain railroad tank cars used to transport specific hazardous materials.
Response to Petitions for Reconsideration	11/1/84	Response to Petitions for Reconsideration	Denial of the three petitions for reconsideration.
HM-184-B Implementation of the ICAO Technical Instructions	11/20/84	Final Rule	To permit the offering, acceptance and transportation by aircraft, and by motor vehicle incident to transportation by aircraft, of hazardous materials shipments conforming to the latest provisions of the International Civil Aviation Organization's (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air.
HM-186 Shipment of Matches	9/13/84	Final Rule	To simplify and clarify the requirements in 49 CFR 173.176 pertaining to safety matches and strike anywhere matches.
HM-187 Requirement for Small Arms Ammunition	5/24/84	Final Rule	Authorizes certain types of small arms ammunition to be classed and offered for shipment as ORM-D under the Hazardous Materials Regulations.

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Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-126-C Required use of Emergency Response Guidebooks and Material Safety Data Sheets	4/16/84	ANPRM	Solicits comments on the potential benefits and consequences of required use of ERG and MSDS's.
HM-166-R Shipment of Hazardous Materials; Miscellaneous Amendments	3/22/84	NPRM	Incorporates a number of changes based on rulemaking petitions from industry and on proposals from within the Department. Updates the regulations and reduces rulemaking petitions.
HM-192 Quantity Limitations Aboard Aircraft	4/6/84	ANPRM	Solicits comments on the limitation of fifty pounds net weight on the quantity of hazardous materials, permitted to be carried aboard passenger aircraft in an inaccessible manner.
HM-172-A Marking Owner Symbols on Compressed Gas Cylinders	4/11/84	ANPRM	Solicits comments on a petition that would prohibit display of more than one owner symbol on a compressed gas cylinder and prohibit removal or change of an owner symbol except by an owner or with the owner's written permission.

Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-191 Classification of Detonating Cord, and Packaging of Detonators	5/17/84	NPRM	Proposes revision of the hazard classification of certain types and quantities of cordeau detonant from Class C explosive to Class A explosive.
HM-184-B Implementation of the ICAO Technical Instructions	7/2/84	NPRM	Proposes to permit the offering, acceptance and transportation by aircraft, of hazardous materials when offered in conformance with ICAO Technical Instructions.
HM-180 Placarding of Empty Tank Cars	8/10/84 8/27/84	NPRM Correction	Proposes to eliminate the requirement to display EMPTY placards on tank cars containing residues of hazardous materials.
HM-190 Modification to DOT Specification 21PF-1 Overpacks.	8/16/84	NPRM	Proposes to modify the design of the 21PF-1 overpack which provides thermal and impact protection for uranium hexafluoride cylinders.
HM-193 Tritium and Carbon-14; Low Specific Activity Radioactive Materials Transported for Disposal	8/23/84	NPRM	Proposes to align transportation requirements for low-level Carbon-14 and Tritium wastes with NRC requirements for unrestricted disposal.

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Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-139-G Conversion of Individual Exemptions into Regulations of General Applicability.	8/28/84	NPRM	Proposes to make regulatory amendments to eliminate exemptions and make alternative shipping methods available to the general shipping industry.
HM-166-S Magnetized Material	9/24/84	NPRM	Proposes to deregulate certain materials presently classed as magnetized material for carriage aboard aircraft.
HM-126-D Odorization of LP Gas and Miscellaneous Proposals	9/27/84	NPRM	Proposes to require better communication of the use or non-use of odorization of LPG during transportation.
HM-172-B Cylinder Retester Identification Procedures	10/4/84	NPRM	Proposes to establish new procedures under the periodic retesting of cylinders and to expand the functions performed by approval agencies.

Appendix A
Rulemaking Publications During 1984

Docket Number and Subject	Date Published	Action	Synopsis
HM-194 Designation of Testing Laboratories; United Nations Packagings	10/12/84	NPRM	Proposes to procedure by which MTB may designate third-party packaging testing laboratories, for the purpose of certifying conformance of packaging designs with United Nations standards.
HM-195 Reclassification of Special Fireworks	11/19/84	ANPRM	Solicits comments on a petition to reclassify certain fireworks currently classed as Class B explosive to Class C explosive.
HM-36B Data Collection and Reporting; Hazardous Materials Incidents Reports	3/16/84	ANPRM	Review to determine if current requirements for reporting hazardous materials incidents should be modified to make them less burdensome on industry.

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APPENDIX B

EXEMPTIONS OR SPECIAL PERMITS IN EFFECT IN 1984

Listed in numerical sequence, are the exemptions or special permits that were in effect sometime during the year 1984. The reason for each issuance is given by a number in the right-hand column which is coded to the reasons shown below:

1. to develop information and gain experience concerning innovative forms of packaging, shipping conditions, or carrier operations;

2. to authorize packagings of similar nature and integrity equivalent to DOT specification containers;

3. to permit one or a limited number of shipments of a material for which an amendment of the regulations would be impractical;

4. to permit emergency movement of material in order to prevent risk to life or property; and

5. to permit emergency movement of a material in order to prevent serious economic loss.

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APPENDIX B

NUMBER	PURPOSE	REASON
868	Authorizes exceptions to requirements for carrier inspection of manufacture, vehicle, loading, etc. for transportation of Class A and B explosives loaded by Department of Defense shippers in DOT Specification containers.	2
970	Authorizes use of DOT Specification 3AA2015 or 3AA2400 cylinders, for transportation of a flammable poisonous gas.	1
1479	Authorizes use of non-DOT specification cargo tanks, for transportation of liquefied fluorine and mixture of liquefied fluorine and liquefied oxygen.	1
1862	Authorizes shipment of nitrogen in hydraulic accumulators.	1
2000	Authorizes use of a non-DOT specification portable tank or a DOT Specification 4L cylinder, for shipment of flammable liquefied compressed gases.	2
2136	Authorizes shipment of radioactive materials with explosives in Department of Defense containers packaged and loaded by the Department of Defense without carrier inspection.	2
2462	Authorizes shipment of certain lead azide in glass bottles overpacked in non-DOT specification wooden box.	2
2582	Authorizes shipment of certain hazardous materials in cylinders made in compliance with DOT Specification 3E1800, with certain exceptions.	1
2587	Authorizes shipment of liquid oxygen in non-DOT specification cargo tanks.	2
2709	Authorizes use of DOT Specification 6J/2S or 6D/2S metal drum/polyethylene containers or non-DOT specification drums, for shipment of Class A and B explosive liquids.	1
2732	Authorizes use of non-DOT specification packagings, for transportation of high explosives.	2
2787	Authorizes shipment of certain nonflammable compressed gas, in non-DOT specification pressure vessels equipped with a regulating valve.	2
2913	Authorizes use of non-DOT specification metal cylinders, for transportation of certain nonflammable and flammable nonliquefied compressed gases.	2
2981	Authorizes transport of certain Class A and B explosives in packagings not provided in 49 CFR.	1
3004	Authorizes use of a non-DOT specification cylinder, for transportation of certain flammable, and non-flammable compressed gases.	2

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NUMBER	PURPOSE	REASON
3095	Authorizes use of a non-DOT specification cargo tank, for shipment of corrosive and flammable liquids.	2
3109	Authorizes use of non-DOT specification pressure vessels, for shipment of a nonflammable, nonliquefied compressed gas.	3
3121	Authorizes use of non-DOT specification cargo tanks, for transportation of a certain Class A poisonous liquid.	2
3126	Authorize transport of Class A explosives in DOT Specification 5 metal drums, or in DOT Specification 42B aluminum drums.	2
3142	Authorizes shipment of nonflammable compressed gases, in DOT Specification 3A1800 or 3A2000 cylinders, from which a controlled flow of gas is released to a leak calibration apparatus.	3
3187	Authorizes shipment of flammable liquids or organic peroxides in various non-DOT and DOT Specification containers.	2
3216	Authorizes use of a proposed DOT Specification 110A300W tank car tank, for transportation of certain flammable compressed gases.	1
3302	Authorizes use of non-DOT specification sampling bottles (cylinders), for transportation of certain nonflammable gases.	2
3330	Authorizes use of non-DOT specification insulated containers overpacked in DOT Specification 17C, 17H, or 37A metal drums, for transportation of certain flammable solid materials.	2
3353	Authorizes shipment of certain oxidizing materials, in a non-DOT specification steel or aluminum portable tank.	2
3498	Authorizes transport of open top vehicles, military combat & tactical vehicles loaded w/their combat supply of accessory ammunition up to 6000 lbs. & not to exceed 18% of net weight of vehicle.	1
3549	Authorizes transport of certain Class A explosives in a special non-DOT specification packaging.	2
3563	Authorize transport of a nonflammable, nonliquefied compressed gas, in an inside steel sphere.	2
3630	Authorizes use of a DOT Specification 33A polystyrene case to contain four 5-pint glass bottles of nitric acid.	2
3648	Authorizes transport of certain cryogenic liquids in non-DOT specification vacuum insulated cargo tanks.	2

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NUMBER	PURPOSE	REASON
3667	Authorizes transport of a flammable compressed gas in aluminum cargo tanks otherwise built in compliance with DOT Specification MC-330.	2
3737	Authorizes shipment of certain military explosives in appropriate military or DOT Specification packagins which have improper markings.	2
3768	Authorizes use of DOT Specification MC-304, MC-307 and MC-312 cargo tanks, for transportation of certain flammable and corrosive liquids.	2
3941	Authorizes transport of ammonium perchlorate in non-DOT specification aluminum portable tanks.	1
3992	Authorizes transport of anhydrous hydrogen chloride in a DOT specification 105A600W or 105S600W tank car.	2
3996	Authorizes shipment of phosphoric anhydride in DOT Specification 6K metal drums.	2
4039	Authorizes shipment of liquefied hydrogen in a non-DOT specification vacuum insulated portable tank.	2
4052	Authorizes shipment of an aerosol formulation pressurized with nitrogen in a DOT Specification 39 seamless aluminum cylinder.	2
4108	Authorizes shipment of liquefied argon, nitrogen and oxygen in non-DOT specification insulated cargo tanks.	2
4177	Authorizes use of a non-DOT specification pressure vessel containing a nonflammable, nonliquefied gas.	3
4242	Authorizes use of a non-DOT specification pressure vessel, for transportation of certain pyroforic mixture.	2
4262	Authorizes shipment of charged oil well jet perforating guns with initiators attached.	2
4282	Authorizes use of privately owned and specially designed cargo tanks, for transportation of a Class B explosive and an oxidizer.	2
4291	Authorizes use of a non-DOT specification aluminum portable tank, for transportation of a certain oxidizer.	2
4338	Authorizes use of DOT Specification 3AA2015 cylinders and DOT Specification 51 portable tanks, for shipment of certain corrosive liquids and a flammable liquid.	2
4354	Authorizes shipment of chloroformates, in DOT Specification 6D or 37M cylindrical steel overpack with an inside DOT Specification 2SL, 2SL or 2T polyethylene container.	2

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NUMBER	PURPOSE	REASON
4453	Authorizes use of a non-DOT specification bulk, hopper-type tank, for transportation of blasting agent, n.o.s. or ammonium nitrate-fuel oil mixtures.	2
4459	Authorizes manufacture, marking and sale of non-DOT specification cylinders, for shipment of flammable, nonflammable gases, Class A and B poisons and mixtures thereof.	2
4460	Authorizes special stowage limits for DOT Specification 51 portable tanks containing metallic sodium.	2
4575	Authorizes use of non-DOT specification tank car tanks, for transportation of certain liquefied compressed gases.	2
4588	Authorizes use of packaging not presently prescribed for certain high explosives.	2
4600	Authorizes transport of hydrogen bromide (anhydrous) in DOT Specification 51 type portable tanks with a design pressure of 525 psig.	2
4607	Authorizes transport of nonflammable, nonpoisonous compressed gas, in an inside plastic coated glass bottle.	2
4612	Authorizes shipment of small quantities of hazardous materials in inside glass bottles overpacked in metal cans further overpacked in DOT Specification 12B fiberboard boxes.	2
4631	Authorizes use of non-DOT specification hopper-type tank trucks and cargo tank trailers, for shipment of a blasting agent and a nonflammable compressed gas.	1
4661	Authorizes transport of butyl lithium in petroleum solvent in DOT Specification 4BA240 cylinders with alternative retest procedures.	2
4698	Authorizes use of a non-DOT specification hydraulic accumulator, for shipment of a certain nonflammable compressed gas.	2
4717	Authorizes shipment of liquefied ethylene or ethane, in a non-DOT specification, insulated tank car tank.	2
4719	Authorizes shipment of certain compressed gases not listed in 49 CFR 173.314 and 173.315, in DOT Specification MC-330 and MC-331 cargo tanks or 105A300W, 112A340W, 114A340, 106A500, 106A500X and 110A500W tank car tanks.	2
4726	Authorizes transport of certain liquid metal fluorides, in non-DOT specification seamless monel cylinders, overpacked in a strong wooden box with cushioning material.	2

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NUMBER	PURPOSE	REASON
4734	Authorizes use of modified DOT Specification MC-331 cargo tanks, for transportation of certain flammable liquids and corrosive materials.	2
4803	Authorizes use of a non-DOT specification cargo tank, for shipment of certain corrosive liquids.	1
4850	Authorizes shipment of flexible linear shaped charges, metal clad, in 100' lengths, containing not more than 50 grams per linear foot of a high explosive.	1
4884	Authorizes shipment of gas-calibration mixtures of compressed gases, in non-DOT specification steel cylinders complying with DOT Specification 4BW with certain exceptions.	2
4990	Authorizes use of AAR Specification 206W tank cars, for transportaton of certain flammable liquids.	2
5022	Authorizes shipment of certain Class A and Class B explosives in temperature controlled equipment.	1
5038	Authorizes shipment of dimethyldichlorosilane, trichlorosilane, other specifically identified flammable liquids and silicon tetrachloride in non-DOT specification type 304 stainless steel cylinders.	2
5112	Authorizes use of a specially designed kettle drum type aluminum containers, for transportation of a Class A explosives	1
5122	Authorizes transport of a certain nonflammable compressed gas, in DOT Specification 106A500X and 110A500W multi-unit tank car tanks.	2
5206	Authorizes privately operated bulk hopper-type units, for transportation of blasting agents.	1
5232	Authorizes shipment of certain flammable and nonflammable liquefied compressed gases in AAR Specification 120A300W tank cars, and DOT Specification 105A500W tank cars.	2
5243	Authorizes modified DOT specification packaging for transportation of Class C or Class A explosives.	1
5248	Authorizes shipment of a certain quantity of polonium-210 in any DOT Specification approved outer Type A packaging.	2
5263	Authorizes transport of a corrosive liquid in a non-DOT specification stainless steel container.	2
5315	Authorizes transport of a rocket engine containing nitrogen tetroxide; methyl-hydrazine and helium contained in a specially designed temperature controlled	2

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NUMBER	PURPOSE	REASON
	semi-trailer.	
5403	Authorizes use of non-DOT specification cargo tanks, meeting the requirements of DOT Specification MC-312 with certain exceptions, in support of oil well acidizing and industrial cleaning operations.	1
5414	Authorizes use of a vacuum insulated non-DOT specification portable tank, for transportation of a flammable gas.	2
5493	Authorizes shipment of hydrogen sulfide in DOT Specification 105A600W tank cars.	2
5557	Authorizes use of non-DOT specification containers, for shipment of certain explosives, with the gross weight exceeding prescribed limits.	1
5600	Authorizes transport of flammable or nonflammable compressed gases, and flammable or corrosive liquids presently authorized to be shipped in a DOT Specification 3A cylinder, to be shipped in a non-DOT specification cylinder made to DOT-3A specification with certain exceptions.	1
5649	Authorizes shipment of an oxidizer, in non-DOT specification polypropylene or polyethylene bags.	1
5701	Authorizes use of a non-DOT specification cargo tank for transportation of a certain oxidizer.	1
5704	Authorizes transport of certain Class A and Class B explosives in prescribed non-DOT specification steel drums.	2
5736	Authorizes use of non-DOT specification tank cars tanks for transportation of a flammable gas.	2
5746	Authorizes shipment of contaminated missile components or detanking pumps containing a certain flammable liquid and a corrosive liquid packaged in wooden boxes or metal drums.	1
5749	Authorizes use of an insulated nickel steel DOT Specification MC-331 cargo tank, for transportation of a certain flammable gas.	2
5792	Authorizes shipment of liquefied flammable gases in non-DOT specification vacuum insulated tank car tanks.	2
5820	Authorizes shipment of nonflammable gases in non-DOT specification IMCO Type 5 portable tanks.	2
5861	Authorizes use of a stainless steel cylinder patterned after the DOT Specification 4DS cylinders, for transportation of a nonflammable compressed gas.	2

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NUMBER	PURPOSE	REASON
5876	Authorizes transport of a Class B poison in DOT Specification 44D multiwall paper bags or non-DOT specification pinch bottom, heat-sealed multiwall bags.	2
5891	Authorizes transport of high explosives in quantities greater than those authorized in 49 CFR, in DOT Specification 15A wooden boxes.	2
5895	Authorizes use of non-DOT specification inner container overpacked in a DOT Specification 12H fiberboard box, or a wooden box for shipment class C explosives.	1
5923	Authorizes transport of certain flammable and nonflammable gases, in DOT Specification 106A500X and 110A500W multi-unit tank cars.	1
5945	Authorizes use of a small capacity DOT Specification 51 portable tank, for shipment of a nonflammable compressed gas.	1
5951	Authorizes transport of liquefied nonflammable compressed gases, in DOT Specification 106 type tanks.	2
5967	Authorizes use of a non-DOT specification cylinder, for transportation of nonflammable gases.	1
6016	Authorizes shipment of liquid oxygen, nitrogen, and argon in non-DOT specification portable tanks.	1
6039	Authorizes use of non-DOT specification insulated cargo tanks, for shipment of a flammable compressed gas.	1
6045	Authorizes use of DOT Specification MC-312 cargo tanks, for transportation of a flammable liquid.	1
6064	Authorizes transport of a high explosive in DOT Specification 21P fiber drum having an inside polyethylene container similar to DOT Specification 2U with certain exceptions.	2
6071	Authorizes use of non-DOT specification pressure vessels, for transportation of nonflammable compressed gases.	2
6080	Authorizes use of manifolded cylinders, for transportation of a Class A poison.	2
6113	Authorizes use of a non-DOT specification cargo tank, for transportation of certain flammable gases.	1
6117	Authorizes transport of hydrogen sulfide in DOT Specification 105A600W tank car tanks or proposed DOT Specification 120A600W tank car tanks.	1
6121	Authorizes use of DOT Specification 115A60W1 and 115A60W6 tank cars tanks, for transportation of a certain flammable liquid.	2

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NUMBER	PURPOSE	REASON
6122	Authorizes use of a full telescope half slotted fiberboard box meeting the requirements of DOT Specification 12B fiberboard box, for shipment of certain dry organic peroxides.	2
6126	Authorizes shipment of chloroacetyl chloride in DOT Specification 6D/2S or 2SL composite packagings.	1
6151	Authorizes shipment of liquefied, nonliquefied flammable and nonflammable gases, in DOT Specification 39 seamless aluminum cylinders.	2
6154	Authorizes transport for certain flammable solids in a modified DOT Specification 12B fiberboard box.	2
6184	Authorizes transport of a nonflammable gas in non-DOT specification portable tanks.	2
6232	Authorizes shipment of nonflammable and flammable gases, and a flammable solid in the same outside packages.	2
6263	Authorizes transport of certain nonflammable compressed gases, in non-DOT specification welded, cylindrical or spherical steel tanks.	2
6267	Authorizes use of DOT and non-DOT specification fiberboard boxes, for shipment of certain oxidizing materials.	2
6293	Authorizes shipment of specific corrosive materials, in DOT Specification MC-311 or MC-312 tank motor vehicles.	2
6296	Authorizes additional bag packagings, for transportation of certain Class B poisons in DOT Specification 44D multi-wall paper bags.	2
6299	Authorizes manufacture, marking and sale of non-DOT specification portable tanks, for transportation of nonflammable gases.	2
6305	Authorizes shipment of a certain Class C explosives in DOT Specification 23F35 fiberboard boxes.	2
6309	Authorizes use of non-DOT specification steel portable tanks, for transportation of certain nonpoisonous, nonflammable compressed gases.	2
6325	Authorizes transport of oxidizers, in non-DOT specification cargo tanks or DOT Specification MC-306, MC-307, or MC-312 cargo tanks.	2
6333	Authorizes transport of certain corrosive liquids, in non-DOT specification type MC-312 glass lined cargo tanks.	2
6349	Authorizes use of non-DOT specification portable tanks,	1

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NUMBER	PURPOSE	REASON
	for shipment of certain flammable and nonflammable gases.	
6369	Authorizes use of DOT Specification 105A400W, 112A400W, 114A400W, 120A300W, and proposed 120A400W tank car tanks for shipment of certain Class B poisonous liquids.	2
6392	Authorizes use of non-DOT specification vacuum insulated tank car tanks, for transportation of a liquefied flammable compressed gas.	1
6418	Authorizes use of DOT Specification MC-303, MC-304, MC-306, MC-307, MC-310, or MC-312 steel cargo tanks, for transportation of Class B poisonous liquids.	1
6434	Authorizes use of non-DOT specification paper bags, for transportation of a poisonous B solid material.	2
6442	Authorizes transport of a 155 mm high explosive projectile containing either a corrosive or flammable liquid, in a metal cannister with an inner polyethylene container.	2
6443	Authorizes use of DOT Specification MC-331 insulated cargo tanks not presently authorized, for tranportation of a flammable gas.	1
6452	Authorizes shipment of certain organic peroxides in one pound bags, overpacked in a DOT Specification 12B65 fiberboard box.	2
6453	Authorizes use of a non-refillable, welded steel cylinder built in compliance with DOT Specification 39 with certain exceptions, for transportation of certain nonflammable compressed gases.	1
6464	Authorizes use of non-DOT specification cargo tanks, for transportation of certain flammable gases.	1
6466	Authorizes shipment of a Class A explosive, in DOT Specification 12H fiberboard boxes.	2
6472	Authorizes use of non-DOT specification polystyrene containers, for transportation of certain Class B explosives.	2
6484	Authorizes transport of mixtures of nitromethane and various solvents, in DOT Specification MC-307 or MC-312 tank motor vehicles.	2
6497	Authorizes use of a modified DOT Specification 56 portable tank, for transportation of Class B poison solids.	2
6501	Authorizes transport of liquid high explosives in DOT Specification 6D steel drums overpacked with a DOT Specification 2SL liner.	2

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NUMBER	PURPOSE	REASON
6518	Authorizes shipment of specified pyrophoric liquids and solids, water reactive solids and certain other flammable liquids in non-DOT specification steel portable tanks or cylinders.	2
6530	Authorizes shipment of hydrogen and mixtures of hydrogen with helium, argon or nitrogen in DOT Specification 3A, 3AA, 3AX or 3AAX steel cylinders.	2
6531	Authorizes use of a non-DOT specification pressure vessel for shipment of a nonflammable compressed gas.	2
6538	Authorizes use of a non-DOT specification inside nonrefillable metal container, for transportation of a certain flammable gas.	2
6543	Authorizes shipment of certain corrosives and flammable liquids in non-DOT specification 16 gauge, Type 304 stainless steel cylinders and/or 14 gauge Type 316 stainless steel cylinders.	2
6556	Authorizes use of a non-DOT specification single compartment portable tank, for transportation of a flammable liquid.	2
6557	Authorizes deviation from the requirements of the inspector's report for DOT Specification 3A, 3AA, and 4B cylinders, for shipment of certain nonflammable compressed gases.	1
6563	Authorizes shipment of certain nonflammable gases, in non-DOT specification steel cylinders, made in compliance with DOT Specification 3E with certain exceptions.	2
6583	Authorizes shipment of a corrosive material in a DOT Specification 51 portable tank.	1
6589	Authorizes manufacture, marking and sale of non-DOT specification stainless steel cylinders, for transportation of nonflammable compressed gases.	1
6602	Authorizes use of DOT Specification MC-331 cargo tanks and DOT Specification 105A500W or 106A500X tank car tanks for shipment of certain corrosive liquids and nonflammable compressed gases.	1
6607	Authorizes a preformed expanded polystyrene molding, or thermoformed polyvinyl chloride tray, as inner packaging, overpacked in a fiberboard box, for transportation of a certain oxidizing material.	1
6610	Authorizes shipment of an organic peroxide in non-DOT specification 111A100W6 tank cars and MC-307 cargo tanks.	1

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NUMBER	PURPOSE	REASON
6611	Authorizes use of a non-DOT specification vacuum insulated portable tank, for transportation of a nonflammable gas.	1
6614	Authorizes use of non-DOT specification polyethylene bottles, packed inside a high density polyethylene box, for transportation of certain corrosive liquids.	1
6626	Authorizes use of DOT Specification 3A or 3AA cylinders and cylinders marked ICC-3, 3A or 3AA, for shipment of certain compressed gases.	1
6629	Authorizes use of a modified DOT Specification 4B cylinder, for transportation of certain gases or mixtures of gases, or a nonhazardous material and a gas.	2
6637	Authorizes manufacture, marking and sale of non-DOT specification polyethylene drums, for shipment of organic peroxides, oxidizers, flammable liquids, corrosive liquids and Class B poisonous liquids.	1
6651	Authorizes one-time reuse of the involved single-trip containers, for transportation of certain Class B poisonous solids.	2
6652	Authorizes manufacture, marking and sale of non-DOT specification filament-wound fiberglass reinforced plastic cylinder, for transportation of certain compressed gases.	1
6653	Authorizes shipment of an insecticide or a corrosive material in DOT Specification 6D, removable head, 55-gallon cylindrical steel overpack.	1
6657	Authorizes use of DOT Specification 3A or 3AA cylinders having an age over 35 years for transportation of certain non-liquefied compressed gases.	1
6658	Authorizes use of a non-DOT specification open-head steel drum, for transportation of a certain Class A explosive.	4
6668	Authorizes shipment of liquid oxygen in non-DOT specification insulated, welded cylinders.	1
6670	Authorizes shipment of tetrafluoromethane in DOT Specification 3A2400, 3AA2400 and 3AAX2400 cylinders.	1
6672	Authorizes manufacture, marking and sale of welded or seamless, nonrefillable non-DOT specification steel cylinders, for transportation of certain nonliquefied compressed gases.	2
6686	Authorizes use of a modified DOT Specification 39 steel cylinder, for transportation of a certain flammable gas.	1
6691	Authorizes use of DOT Specification 3A or 3AA cylinders	1

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NUMBER	PURPOSE	REASON
	over 35 years old which can be retested every 10 years, for transportation of certain flammable and nonflammable gases.	
6694	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for transportation of nonflammable gases.	2
6695	Authorizes use of a non-DOT specification IMO Type 5 portable tank, for transportation of certain nonflammable compressed gases.	2
6704	Authorizes use of non-DOT specification cargo tanks for shipment of certain corrosive liquids.	2
6712	Authorizes shipment of certain flammable and nonflammable gases in DOT Specification 3A or 3AA cylinders or ICC-3, 3A or 3AA cylinders.	2
6724	Authorizes transport of caseless ammunition in an inside fiberboard box with egg crate separations and overpacked in a non-DOT specification strong wooden box.	1
6726	Authorizes manufacture, marking and sale of non-DOT specification reusable blow-molded polyethylene containers, for shipment of certain corrosive liquids, flammable liquids and oxidizers.	1
6731	Authorizes small vials and ampules not currently specified for transportation of an M72E1 simulant chemical agent identification training set, containing a Class B poison, corrosive liquids, and non-hazardous articles.	1
6735	Authorizes transport of bromine in a non-DOT specification cylinder constructed in accordance with all requirements of DOT Specification 4B, 4BA or 4BW except that the cylinder shall be marked "DOT-E 6735" in lieu of the DOT specification marking.	1
6743	Authorizes shipment of an oxidizing material and a blasting agent in DOT Specification 56 or 57 portable tanks.	1
6746	Authorizes shipment of anhydrous ammonia in portable tanks built, marked and maintained in compliance with the DOT Specification MC-331 cargo tank.	1
6752	Authorizes use of DOT Specification 3A, 3AAX and 3T cylinders forming part of a tube trailer or tube bank, for transportation of a liquefied flammable compressed gas.	1
6755	Authorizes shipment of liquid argon, nitrogen, and oxygen in non-DOT specification cargo tanks.	1
6758	Authorizes manufacture, marking and sale of non-DOT	1

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NUMBER	PURPOSE	REASON
	specification removable head polyethylene drums, for transportation of corrosive and flammable liquids.	
6759	Authorizes transport of Class A or B explosives in an IME 22 container or compartment on the same vehicle with non-mass detonating blasting caps.	1
6762	Authorizes transport of chemical kits in plastic inside bottles, packed in plastic boxes overpacked in fiberboard boxes.	1
6763	Authorizes use of non-DOT specification single-wall, double-faced corrugated fiberboard boxes, for shipment of certain oxidizers.	2
6765	Authorizes use of non-DOT specification portable tanks, for transportation of a flammable and a nonflammable gas.	1
6766	Authorizes use of DOT Specification MC-311 and MC-312 cargo tanks, for shipment of a corrosive liquid.	2
6768	Authorizes use of a non-DOT specification vacuum insualted cargo tank, for transportation of a flammable gas.	1
6772	Authorizes transport of limited quantities of waste flammable, poisonous and corrosive liquids in inside glass or compatible plastic bottles or metal can, overpacked in a DOT Specification 17H steel drum.	1
6773	Authorizes shipment of a flammable compressed gas, in a DOT Specification 105A600W tank car.	1
6774	Authorizes use of non-DOT specification cylinders complying with DOT Specification 3HT, with certain exceptions, for shipment of a nonflammable gas.	2
6787	Authorizes manufacture, marking and sale of DOT Specification 34 polyethylene drums, for shipment of Class B poisonous liquids, flammable liquids, organic peroxides and corrosive liquids.	1
6800	Authorizes manufacture, marking and sale of non-DOT specification 50- and 55-gallon polyethylene containers similar to DOT Specification 34, for shipment of certain flammable liquids, corrosive materials, poison B liquids and hydrogen peroxide classed as an oxidizer.	1
6805	Authorizes use of DOT Specification 3AAX steel cylinders for a flammable compressed gas mixture.	1
6806	Authorizes transport of a flammable gas in a DOT Specification 3E1800 cylinder by passenger-carrying aircraft.	1
6816	Authorizes shipment of completely assembled liquid and	1

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NUMBER	PURPOSE	REASON
	solid fueled missiles in packaging prescribed in 173.57(a).	
6824	Authorizes packagings not provided for in the Hazardous Materials Regulations, for shipment of certain oxidizing materials.	2
6825	Authorizes manufacture, marking and sale of non-DOT specification vacuum insulated tank car tanks, for transportation of liquefied ethylene and liquefied ethane.	1
6828	Authorizes use of inside glass bottles in non-DOT specification fiberboard boxes, for transportation of certain corrosive materials.	1
6859	Authorizes use of non-DOT specification nonrefillable titanium alloy spherical pressure vessel, for shipment of a nonflammable compressed gas.	2
6861	Authorizes use of DOT Specification 21P fiber drums with DOT Specification 2SL or 2U polyethylene liners, for transportation of certain Class A explosives.	2
6874	Authorizes transport of sodium and potassium cyanides in non-DOT specification wooden boxes.	1
6883	Authorizes manufacture, marking and sale of non-DOT specification molded polyethylene containers, for shipment of oxidizers, poison B, corosive liquids, organic peroxides and flammable liquids.	1
6890	Authorizes transport of an explosive severance system consisting of linear segments which may contain up to 79 grams of hexanitrostilbene.	2
6895	Authorizes shipment of zirconium liquid mixtures in a DOT Specification 37A steel drum.	1
6902	Authorizes shipment of a liquefied nonflammable compressed gas, in a modified DOT Specification 110A800W multi-unit tank car tank.	1
6904	Authorizes transport of certain corrosive materials in DOT Specification 12A fiberboard boxes having inside glass acid resistant bottles not exceeding 1 pint capacity.	1
6908	Authorizes certain variances from the specifications for DOT Specification 39 cylinders, for shipment of certain nonflammable gases.	2
6919	Authorizes use of a non-DOT specification insulated cargo tank for shipment of certain flammable gases.	1
6921	Authorizes use of a non-DOT specification portable tank, for transportation of liquefied helium.	1

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NUMBER	PURPOSE	REASON
6922	Authorizes use of a DOT Specification 106A500-X multi-unit tank car tank, for shipment of certain compressed gases.	1
6927	Authorizes use of a non-DOT specification portable tank, for transportation of certain Class B poisonous liquids.	1
6929	Authorizes shipment of a Class B explosive in rocket motors in a propulsive state.	1
6932	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for transportation of anhydrous hydrofluoric acid.	1
6944	Authorizes transport of a liquid high explosive in a specially designed stainless steel desiccator.	1
6946	Authorizes use of DOT Specification 3A or 3AA cylinders and ICC-3, 3A, or 3AA cylinders for shipment of certain compressed gases.	1
6960	Authorizes use of DOT Specification and non-DOT specification stainless steel drums not presently authorized in the Hazardous Materials Regulations, for shipment of certain corrosive liquids.	2
6961	Authorizes shipment of certain flammable solids in a DOT Specification 37A 20-gauge steel drum.	2
6962	Authorizes shipment of argon or helium in a DOT Specification 3AA1800 or 3AA2000 cylinders.	1
6963	Authorizes use of non-DOT specification intermodal portable tanks, for transportation of hydrofluoric acid and anhydrous hydrofluoric acid.	1
6971	Authorizes transport of small quantities of reagent chemicals in inside glass bottles packed in metal boxes, overpacked in a strong wooden or fiberboard box.	1
6984	Authorizes packaging of 1000 or less electric blasting caps in inside pasteboard cartons or tubes, overpacked in an IME 22 container.	1
6985	Authorizes shipment of diallyl phtalate-pyrotechnic materials in an aluminum case packed in a DOT Specification 15A wooden box.	1
6999	Authorizes cargo loading hatches of vessels being loaded with military explosives to remain open overnight under certain conditions.	1
7007	Authorizes shipment of chlorine in non-DOT specification multi-unit tank car tanks patterned after DOT Specification 110A500W.	1

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NUMBER	PURPOSE	REASON
7011	Authorizes transport of caustic soda beads and a corrosive solid in non-DOT specification polyethylene containers not exceeding 57-gallon capacity.	1
7023	Authorizes use of non-DOT specification steel portable tanks, for shipment of an oxidizer or corrosive material.	2
7024	Authorizes transport of an alkaline corrosive liquid in non-DOT specification collapsible rubber containers.	1
7025	Authorizes use of a non-DOT specification cargo tank, for transportation of a flammable gas and a nonflammable gas.	1
7026	Authorizes manufacture, marking and sale of a non-DOT specification welded steel pressure vessel, for transportation of a compressed gas.	2
7032	Authorizes outside packages exceeding the 100 pounds limitation to be carried aboard cargo aircraft only for shipment of a certain corrosive solid.	2
7040	Authorizes carriage of larger quantities of corrosive liquids in DOT Specification 6D cylindrical steel overpack with inside DOT Specification 2SL container mounted on a pallet and covered with a wooden overwrap.	1
7041	Authorizes shipment of pyrophoric waste materials in non-DOT specification cargo tanks of the MC-331 type.	2
7046	Authorizes use of modified DOT Specification MC-312 glass lined cargo tanks, for transportation of certain corrosive liquids and a certain oxidizer.	2
7051	Authorizes use of non-DOT specification Teflon bottles overpacked with either a DOT Specification 12A or 12B fiberboard box, for transportation of a corrosive liquid.	1
7052	Authorizes shipment of batteries containing lithium and other materials, classed as flammable solids.	1
7060	Authorizes carriage of radioactive materials aboard cargo aircraft only when the combined transport index exceeds 50.0 and/or the separation criteria cannot be met.	1
7062	Authorizes variation from the specifications of a DOT Specification 34 polyethylene container, for transportation of certain corrosive liquid.	2
7063	Authorizes use of a removable-head non-DOT specification polyethylene pail, for transportation of corrosive materials.	1
7070	Authorizes shipment of a poison B solid in a plastic jar	1

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NUMBER	PURPOSE	REASON
	overpacked in a metal can equivalent to DOT Specification 2N, packed in a single-faced corrugated fiberboard DOT Specification 12B box.	
7073	Authorizes use of non-DOT specification portable tanks for transportation of a Class B poisonous liquid.	2
7076	Authorizes packaging not prescribed in the Hazardous Materials Regulations, for transportation of a certain corrosive liquid and flammable liquid.	1
7085	Authorizes packaging not presently authorized by the Hazardous Materials Regulations, for shipment of Class C explosives.	2
7087	Authorizes shipment of small quantities of certain hazardous materials in non-DOT specification glass, polyethylene, or other plastic containers.	2
7096	Authorizes shipment of bromotrifluoromethane (Freon 1301) in non-DOT specification cylinders, fabricated in accordance with DOT Specification 4B240ET with certain exceptions.	2
7097	Authorizes shipment of dry mixtures of parathion and tetraethyl dithio pyrophosphate from specification packaging requirements.	2
7206	Authorizes shipment of certain corrosive liquids in non-DOT specification stainless steel cargo tanks.	2
7208	Authorizes transport of Class B explosives in quantities exceeding present weight limitations.	2
7218	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for shipment of certain nonflammable compressed gases.	2
7227	Authorizes use of a vacuum insulated, non-DOT specification portable tank for the shipment of a certain nonflammable gas.	1
7235	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for transportation of certain nonflammable compressed gases.	2
7247	Authorizes a bulkhead in the lower hold of a vessel separating military explosives from general cargo to be secured on 4 inch by 6 inch uprights, in lieu of the required 6 by 6 inch uprights.	1
7252	Authorizes transport of Pourvex and Tovex Extra in DOT Specification 17H metal drums.	2
7255	Authorizes simultaneous loading of two holds within the	1

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NUMBER	PURPOSE	REASON
	same hatch when handling military explosives.	
7259	Authorizes use of DOT Specification 56 aluminum portable tanks for shipment of phosphorous pentasulfide by cargo vessel.	2
7268	Authorizes use of a DOT Specification 39 nonrefillable cylinder, for shipment of a nonflammable compressed gas.	2
7269	Authorizes use of sift-proof paper or plastic bags overpacked in DOT Specification 21C fiber drums, for transportation of certain Class A explosives.	2
7274	Authorizes use of non-DOT specification portable tanks, for shipment of certain nonflammable gases.	1
7275	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
7277	Authorizes manufacture, marking and sale of non-DOT specifiation fiber reinforced plastic full composite cylinder, for transportation of certain nonflammable compressed gases.	2
7285	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain nonflammable, liquefied gases.	1
7286	Authorizes shipment of certain nonliquefied compressed gases in DOT Specification 3A or 3AA cylinders and cylinders marked ICC-3, 3A or 3AA.	2
7409	Authorizes use of a modified DOT specification cargo tank, for transportation of certain combustible liquids.	2
7413	Authorizes transport of carbon dioxide or nitrogen, in a non-DOT specification brazed steel cylinder.	2
7438	Authorizes use of non-DOT specification cargo tanks, for transportation of a Class B poisonous liquid.	3
7440	Authorizes transport of a nonflammable gas, in non-DOT specification one-piece, impact-extruded, cylindrical, aluminum container.	2
7451	Authorizes use of non-DOT specification pressure vessels, for transportation of a nonflammble gas.	1
7454	Authorizes blasting agent to be stowed in proximity to certain explosives without a bulkhead separating these materials.	1
7455	Authorizes handling and stowage of explosive material in an anchored and unmanned barge.	3

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NUMBER	PURPOSE	REASON
7458	Authorizes manufacture, marking and sale of non-DOT specification seamless cylinders, for transportation of nonflammable gases.	2
7465	Authorizes stowage of transport motor vehicles and liquefied petroleum gases aboard passenger vessels.	1
7466	Authorizes shipment of certain flammable liquid mixtures, in a spun 99-percent pure aluminum can, overpacked in a corrugated fiberboard box.	2
7476	Authorizes manufacture, marking and sale of certain non-DOT specification cargo tanks, for transportation of certain flammable and corrosive liquids and poison waste materials.	2
7477	Authorizes use of non-DOT specification seamless aluminum cylinders, for transportation of certain nonflammable compressed gases.	2
7482	Authorizes use of reconditioned non-DOT specification blow-molded high molecular weight polyethylene drum, for shipment of certain corrosive solid waste materials.	2
7489	Authorizes shipment of a corrosive liquid in specified non-DOT specification metal container having a capacity of 1 quart or less, in a DOT Specification 3A metal drum.	1
7494	Authorizes use of non-DOT specification cargo tanks, for transportation of certain nonflammable gases.	1
7495	Authorizes manufacture, marking and sale of non-DOT specification portable steel tanks, for transportation of chlorine or sulfur dioxide.	1
7498	Authorizes shipment of a corrosive liquid in a non-DOT specification corrugated polypropylene box.	1
7505	Authorizes use of DOT Specification 17C drums previously used for shipment of Class B poisons and reconditioned (decontaminated).	2
7513	Authorizes shipment of pressurized liquid oxygen, in DOT Specification MC-331 cargo tanks.	1
7517	Authorizes manufacture, marking, and sale of non-DOT specification fusion welded tank car tanks, for transportation of a nonflammable compressed gas.	1
7526	Authorizes shipment of a pyrophoric liquid in non-DOT specification portable tanks.	2
7538	Authorizes manufacture, marking and sale of non-DOT specification reusable rotationally molded polyethylene containers, for transportation of corrosive liquids.	1

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NUMBER	PURPOSE	REASON
7542	Authorizes manufacture, marking and sale of non-DOT specification steel cylinders, for transportation of certain flammable gases.	2
7544	Authorizes transport of solutions of sodium hydroxide and certain other liquid corrosives, or other liquid corrosive materials in a DOT Specification 2U polyethylene inside container, overpacked in a non-DOT specification fiberboard box.	2
7546	Authorizes use of a heat pipe radiator assembly for shipment of certain flammable liquids and nonflammable and flammable compressed gases.	3
7548	Authorizes stowage of explosives on deck of vessel, over the square of the hatch.	1
7549	Authorizes use of a non-DOT specification 316L stainless steel portable tank, for shipment of a certain corrosive material.	1
7555	Authorizes use of a cargo tank made from non-metallic materials for transportation of certain corrosive materials.	1
7558	Authorizes use of a non-DOT specification portable tank, for transportation of certain nonflammable gases.	2
7573	Authorizes transport of certain hazardous materials presently forbidden or in quantities greater than allowed for cargo aircraft only.	1
7574	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
7578	Authorizes shipment of a certain Class B explosive in inside viscose rayon bags.	2
7586	Authorizes transport of rocket motors in a propulsive state and in packaging not prescribed in the regulations.	1
7594	Authorizes transport of certain poison B liquids in DOT Specification MC-312 cargo tanks.	2
7595	Authorizes transport of certain poison B liquids in DOT Specification MC-312 cargo tanks.	1
7598	Authorizes shipment of certain corrosive materials, oxidizers and Class B poisons in DOT Specification 60 except the ends are bolted instead of welded.	2
7601	Authorizes shipment of desensitized nitroglycerin in non-DOT specification inside containers.	3

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NUMBER	PURPOSE	REASON
7605	Authorizes transport of certain explosives contained in a partially dis-assembled aircraft or canopy assembly.	1
7607	Authorizes shipment of hydrogen in certain non-DOT specification seamless stainless steel cylinders.	1
7616	Authorizes carrier to certify the shipping paper on behalf of the shipper when transporting hazardous materials by rail.	1
7621	Authorizes use of an ISO portable tank for shipment of methyl bromide and chloropicrin.	2
7625	Authorizes transport of certain corrosive liquids, in DOT Specification 56 portable tanks.	2
7628	Authorizes use of DOT Specification 111A100W-5 tank cars equipped with a safety relief valve instead of a vent for shipment of certain corrosive liquids.	5
7638	Authorizes manufacture, marking and sale of DOT Specification 4L cylinders, for transportation of certain nonflammable compressed gases.	4
7640	Authorizes use of a DOT Specification 34 polyethylene container of 15 gallon capacity for shipment of hydrogen peroxide, 60%.	2
7641	Authorizes carriage of motor vehicles aboard cargo vessels with battery cables connected.	5
7648	Authorizes carriage of aerial illuminating flares for testing purposes in cargo aircraft only.	3
7650	Authorizes use of non-DOT specification vacuum insulated steel portable tanks for shipment of certain nonflammable compressed gases.	2
7651	Authorizes shipment of a Class B liquid explosive in non-DOT specification sealdtanks.	1
7654	Authorizes use of a glass bottle not exceeding 500 millimeter capacity inside a metal container overpacked in a DOT Specification 12B fiberboard box for transportation of a flammable liquid.	2
7657	Authorizes manufacture, marking and sale of non-DOT specification cylinders, for transportation of certain compressed gases.	2
7668	Authorizes use of non-DOT specification nonrefillable steel tubes welded closed at both ends, for transportation of a nonflammable compressed gas.	2
7674	Authorizes shipment of certain Class A explosives on flat-cars and open-top rail cars.	1

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NUMBER	PURPOSE	REASON
7677	Authorizes shipment of liquefied natural gas (methane) in non-DOT specification vacuum insulated truck-mounted portable tanks.	1
7682	Authorizes manufacture, marking and sale of non-DOT specification reusable molded polyethylene containers, for transportation of corrosive liquds.	2
7694	Authorizes use of non-DOT specification welded, or seamless, nonrefillable cylinders containing non-liquefied compressed gases.	2
7700	Authorizes transport of gasoline in the baggage and/or passenger compartments of helicopters.	1
7708	Authorizes use of non-DOT specification girth welded cylinders for shipment of a nonflammable compressed gas.	2
7719	Authorizes use of brazed DOT Specification 39 cylinders, for transportation of methylacetylene propadiene stabilized.	2
7721	Authorizes manufacture, marking, and sale of non-DOT specification steel cylinders, for transportaion of certain nonflammable, nonliquefied compressed gases.	1
7725	Authorizes shipping description on shipping papers to contain coded information.	1
7731	Authorizes manufacture, marking, and sale of non-DOT specification super-insulated portable tanks for shipment of pressurized liquid helium.	2
7735	Authorizes manufacture, marking and sale of DOT specification 34 containers, for shipment of certain flammable liquids and corrosive materials.	1
7737	Authorizes manufacture, marking, and sale of non-DOT specification seamless aluminum cylinders, for shipment of compressed gases.	2
7741	Authorizes shipment of anhydrous hydrazine and helium in non-refillable non-DOT specification cylinders.	2
7753	Authorizes shipment of yellow phosphorous in a tight-head 55 gallon DOT Specification 17C drum.	2
7754	Authorizes transport of non-electric blasting caps in the same vehicle with Class A and Class B explosives when the caps are placed in polyethylene plastic bags.	1
7765	Authorizes use of nonrefillable, non-DOT specification cylinders, for transportation of a nonflammable gas.	2
7767	Authorizes manufacture, marking and sale of non-DOT specification welded steel cylinders, for transportation of nonflammable compressed gases.	1

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NUMBER	PURPOSE	REASON
7768	Authorizes manufacture, marking and sale of non-DOT specification blow-molded, high molecular weight polyethylene drums, with removable head, for shipment of oxidizers, corrosive materials, flammable liquids or solids and poison B solids.	2
7769	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinder, for transportation of certain nonflammable compressed gas.	1
7770	Authorizes transport of anhydrous hydrogen fluoride or anhydrous methylchloromethyl ether in certain non-DOT specification portable tanks.	2
7774	Authorizes shipment of bromine trifluoride in non-DOT specification cylinders.	2
7777	Authorizes use of DOT Specification 34 polyethylene containers, DOT Specification 12B or 12P corrugated fiberboard boxes, or DOT Specification 6D or 37M cylindrical steel drums overpacked with an inside Specification 2SL polyethylene containers for shipment of spent sulfuric acid.	2
7778	Authorizes barrels of distilled spirits to be transported without being labeled or having the exemption number marked on the barrel or shipping paper.	3
7788	Authorizes shipment of corrosive liquids in non-DOT specification 20- and 35-gallon capacity rotationally molded, reusable polyethylene drums.	1
7802	Authorizes shipment of liquid hazardous materials in non-DOT specification 3.5 or 5 gallon capacity removable head polyethylene drums.	1
7803	Authorizes manufacture, marking and sale of non-DOT specification removable head polyethylene drums, for shipment of liquid hazardous materials.	1
7808	Authorizes shipment of insecticides in DOT Specification 39 cylinders equipped with a pressure relief device.	1
7811	Authorizes use of DOT Specification 12A corrugated fiberboard boxes with handholes, for shipment of certain corrosive and flammable liquids.	2
7822	Authorizes shipment of liquid helium in specifically insulated non-DOT specification portable tanks.	2
7823	Authorizes transport of iodine pentafluoride in non-DOT specification welded stainless steel cylinders complying with DOT Specification 4BW with certain exceptions.	2
7827	Authorizes transport of a certain oxidizing material in	1

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NUMBER	PURPOSE	REASON
	a freight container.	
7834	Authorizes transport of nonliquefied sulfur hexafluoride in certain X-ray machines, overpacked in strong wooden or fiberboard boxes.	1
7835	Authorizes transport of compressed gas cylinders bearing the flammable gas label, the oxidizer label, or the poison gas label and tank car tanks bearing the poison gas label on the same vehicle.	1
7840	Authorizes transport of a Class C explosive and a nonflammable compressed gas, in the same non-DOT specification fiberboard shipping container.	1
7846	Authorizes frame mounting and manifolding of DOT Specification seamless steel tank car tanks, for shipment of certain nonflammable gases.	1
7857	Authorizes use of certain non-DOT specification portable tanks for shipment of certain flammable gases.	2
7862	Authorizes use of non-DOT specification aluminum, single trip, inside container, for transportation of a nonflammable gas.	2
7873	Authorizes use of non-DOT specification intermodal portable tanks, for transportation of a Class B poison liquid.	2
7876	Authorizes use of a shipping description, etching acid, liquid, n.o.s., to be used for products which do not comply with the definition in 49 CFR 173.299(a).	1
7879	Authorizes shipment of bromine trifluoride, in non-DOT specification seamless cylinders.	2
7885	Authorizes use of non-DOT specification non-refillable metallic inside containers, for shipment of certain hazardous materials.	1
7886	Authorizes shipment of a corrosive liquid, in non-DOT specification metal can/fiberboard box packaging.	2
7887	Authorizes shipment of packages of toy propellant devices as an ORM-D material and excepted from labeling requirements.	1
7891	Authorizes transport of packages bearing the DANGEROUS WHEN WET label, in motor vehicles which are not placarded FLAMMABLE SOLID W.	1
7898	Authorizes transport of methylhydrazine in DOT Specification 103A-ALW or 103CW tank cars.	2
7907	Authorizes shipment of wet nitrocellulose, a flammable liquid or flammable solid, in non-DOT specification	2

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NUMBER	PURPOSE	REASON
	fiberboard drums.	
7909	Authorizes transport of limited quantities of poisonous liquids and solids in non-DOT specification plastic, metal or plastic-coated glass containers.	1
7915	Authorizes transport of certain propellant explosives in water in DOT Specification MC 307 or MC 312 cargo tanks.	1
7928	Authorizes stowage of certain hazardous materials on the vehicle deck of passenger vessels.	1
7929	Authorizes transport of flaked or pelletized TNT in woven polyethylene or polypropylene cloth outer bags, with plastic film liners.	1
7933	Authorizes manufacture, marking and sale of non-DOT specification reusable, blow-molded, polyethylene containers, for transportation of certain corrosive and flammable liquids and an oxidizerss.	1
7943	Authorizes shipment of corrosive liquids in fiberboard boxes complying with DOT Specification 12B except for handholes in top flaps.	5
7945	Authorizes use of a non-DOT stainless steel cylinder similar to the DOT Specification 4DS cylinder.	2
7946	Authorizes transport of various nonflammable gases in non-DOT specification steel or aluminum pressure vessels contained in a radiation detector.	2
7948	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks for shipment of flammable and corrosive waste materials.	2
7951	Authorizes transport of an aerosol foodstuff in a nonrefillable metal container, complying with DOT Specification 2P with certain exceptions.	2
7954	Authorizes shipment of nonflammable gases in manifolded DOT Specification 3A2400, 3AA2400 or 3AAX2400 cylinders.	1
7957	Authorizes manufacture, marking and sale of non-DOT specification aluminum cargo tanks, for transportation of carbon dioxide, liquefied.	2
7959	Authorizes stowage of recreational vehicles carrying liquefied petroleum gas for heating and cooking on the vehicle deck of passenger-carrying ferries and other passenger-carrying vessels.	1
7963	Authorizes transport of perchloromethyl mercaptan and thiophene-2-acetyl chloride, in monel tanks constructed in accordance with DOT Specification 51.	2
7969	Authorizes shipment of certain waste hazardous materials	2

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NUMBER	PURPOSE	REASON
	in non-DOT specification single compartment cargo tanks similar to DOT Specification MC-307/312 except for bottom outlet and circumferential reinforcement.	
7971	Authorizes manufacture, marking and sale of non-DOT specification cylinders, for transportation of nonflammable compressed gases.	1
7972	Authorizes transport of limited quantities of explosives in a special shipping container without placarding the vehicle.	1
7985	Authorizes manufacture, marking and sale of non-DOT specification vacuum insulatd portable tanks, for shipment of nonflammable gases.	1
7987	Authorizes shipment of a poison B, in non-DOT specification five ply natural kraft multiwall bags.	2
7991	Authorizes transport of railway track torpedoes and fusees in flagging kits of specified construction.	1
7998	Authorizes transport of sodium persulfate in non-DOT specification composite polyethylene paper bags.	1
8003	Authorizes use of one gallon, open-head polyethylene containers inside a DOT Specification 12B box for shipment of organic peroxide solids and pastes.	2
8006	Authorizes transport of unlabeled packages of toy paper or plastic caps complying with the requirements of 173.100(p) and 173.109, in motor vehicles with placards, when the gross weight of the caps is 1000 pounds or more.	1
8008	Authorizes manufacture, marking and sale of non-DOT specification aerosol container consisting of a glass bottle externally coated with plastic, for shipment of compressed gases.	1
8009	Authorizes use of DOT Specification 3AAX cylinders made of 4130X steel, for transportation of a compressed natural gas.	1
8013	Authorizes use of a DOT Specification cylinder not presently authorized for certain flammable and nonflammable gases.	2
8016	Authorizes transport of detonating cord and exploding bridge wire detonators in passenger-carrying aircraft and helicopters.	1
8017	Authorizes use of DOT Specification 3AX, 3AAX, or 3T cylinders for transportation of a flammable gas.	2
8023	Authorizes use of non-DOT specification hooped wrapped FRP cylinders, for shipment of certain compressed gases.	1

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NUMBER	PURPOSE	REASON
8035	Authorizes transport of limited quantities of certain propellant explosives in a plastic tube packed in a DOT Specification 12B fiberboard box.	1
8037	Authorizes use of a non-DOT specification fiberboard drum for shipment of wet nitrocellulose.	2
8051	Authorizes manufacture, marking and sale of DOT Specification reusable, blowmolded, polyethylene containers, for transportation of corrosive materials.	1
8053	Authorizes shipment of monoethylamine in inside glass bottles/metal can, overpacked in DOT Specification 12B fiberboard boxes.	2
8059	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for transportation of certain flammable and nonflammable compressed gases.	1
8060	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain nonflammable, liquefied gases.	2
8063	Authorizes use of a vacuum insulated DOT Specification 4L welded cylinder, for transportation of certain nonflammable gases.	2
8065	Authorizes shipment of certain Class A and Class B explosives in non-DOT specification plywood boxes.	2
8074	Authorizes use of a DOT Specification 3E cylinder without safety devices, for transportation of certain flammable and nonflammable gases.	1
8077	Authorizes use of non-DOT specification steel drums, for shipment of a flammable and corrosive liquid.	4
8080	Authorizes transport of dry chromic acid in a DOT specification 105A300W tank car which has been converted to DOT Specification 111A100W1; or a DOT Specification 103AW tank car converted to DOT Specification 103W.	1
8081	Authorizes transport of a Class B rocket motor having a gross shipping weight not exceeding 3000 lbs. by cargo aircraft only.	3
8083	Authorizes stowage of carbon bisulfide (or carbon disulfide) and nickel carbonyl aboard vessels also carrying explosive, under conditions approved by the Captain of the Port.	1
8084	Authorizes transport of Class A explosives containing more than 5% moisture in plastic tubes overpacked in DOT specification wooden or fiberboard boxes.	1

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NUMBER	PURPOSE	REASON
8086	Authorizes transport of a cruise missile containing hazardous materials.	2
8091	Authorizes transport of certain mercury relays containing metallic mercury, classed as ORM-B, exempted from 49 CFR Parts 100-177.	1
8094	Authorizes shipment of corrosive materials in a DOT Specification 56 tank where a DOT Specification 60 tank is permitted in the regulations.	2
8096	Authorizes manufacture, marking and sale of non-DOT specification steel cylinders for shipment of certain nonflammable gases.	1
8099	Authorizes use of a non-DOT specification corrugated fiberboard box with an inner heat-sealed bag for the transportation of certain poisonous solids.	2
8101	Authorizes use of the EXPLOSIVES A placard only when 30mm GAU-8 (PGU-14/B) armor piercing ammunition, containing a depleted uranium metal projectile, is loaded in the same shipping container with PGU-13/B ammunition, & eliminated need to label packages as containing radioactive material.	1
8111	Authorizes use of non-DOT specification welded, stainless steel cylinders, for transportation of a nonflammable gas mixture.	1
8115	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinder, for transportation of certain nonflammable compressed gases.	1
8119	Authorizes use of a non-DOT specification cargo tank designed and constructed in full compliance with DOT Specification MC-307 or MC-312 with certain exceptions, for transportation of certain corrosive and flammable liquids.	2
8120	Authorizes carriage of certain Class A, B, and C explosives that are not permitted for shipment by air or in quantities greater than allowed by air.	3
8125	Authorizes use of non-DOT specification portable tanks, for transportation of certain flammable and nonflammable gases and flammable liquids.	2
8126	Authorizes use of non-DOT specification portable tanks, for transportation of certain liquefied petroleum gases and other gases classed as flammable gas and a flammable liquid.	2
8127	Authorizes use of a non-DOT specification fiberboard drum for shipment of wet nitrocellulose.	1

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NUMBER	PURPOSE	REASON
8129	Authorizes shipment of certain waste hazardous materials packed in bottles surrounded by absorbent material overpacked in DOT Specification 37A, 17H, or 6J drums.	1
8131	Authorizes use of a non-DOT specification portable tank made of Inconel 718 metal for shipment of a nonflammable gas.	2
8141	Authorizes transport of individual cells and modules consisting of three cells containing lithium metal and thionyl chloride.	1
8144	Authorizes transport of 10 percent of nitroglycerine in propylene glycol as "spirits of nitroglycerine".	1
8151	Authorizes shipment of liquid hazardous materials in five-gallon capacity removable head polyethylene drums.	2
8152	Authorizes shipment of hydrofluoric acid, solution, in an unlined DOT Specification MC-312 cargo tank.	1
8153	Authorizes use of a modified DOT Specification MC-307 or MC-312 cargo tank for the transportation of certain flammable and corrosive liquids.	1
8156	Authorizes shipment of flammable gases in DOT Specification 39 cylinders up to 225 cubic inches in volume.	1
8162	Authorizes manufacture, marking and sale of a non-DOT specification cylinder for shipment of certain nonflammable compressed gases.	1
8167	Authorizes shipment of a chromic acid solution in composite packaging consisting of a non-DOT specification fiberboard outer box and expanded polystyrene/glass bottle inner packaging.	2
8168	Authorizes manufacture, marking and sale of non-DOT specification fully removable head polyethylene drums, for shipment of certain corrosive solids and solid oxidizers.	1
8175	Authorizes shipment of benzoyl peroxide, wet, in a plastic lined DOT Specification 21C fiber drum, without an inside polyethylene container.	2
8178	Authorizes use of a non-DOT specification composite cylinder for a compressed nonliquefied gas.	1
8180	Authorizes use of a non-DOT specifiecation steel drum for shipment of a specifid corrosive material and a flammable liquid.	1
8184	Authorizes shipment of trinitrotoluene in a non-DOT specification multi-wall paper polyethylene jute composite bag with net weight not exceeding 100 pounds.	1

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NUMBER	PURPOSE	REASON
8194	Authorizes use of a fiberboard box complying with DOT Specification 12B (except for closure method and its one-piece, die cut design) for shipment of liquid organic peroxides.	1
8196	Authorizes use of a non-DOT specification portable tank for the transportation of certain compressed gases.	1
8208	Authorizes shipment of liquid propellant samples, frozen, in non-DOT specification plywood boxes.	5
8209	Authorizes carriage of Class A, B, and C explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	1
8214	Authorizes transport of inflators and modules for passive restraint systems for use in automobiles.	1
8215	Authorizes shipment of certain identified Class A, B, and C explosives in non-DOT specification containers.	3
8220	Authorizes use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use in the transportation of nonflammable compressed gases.	1
8221	Authorizes use of non-DOT specification high pressure cylinders of welded construction for military missile systems use only.	3
8225	Authorizes use of a non-DOT specification rotationally molded, cross-linked polyethylene portable tank for the shipment of corrosive liquids and an oxidizer.	2
8228	Authorizes transport of packages containing not in excess of 35 grams of one type of explosive material or one explosive device, not exceeding 35 grams, in any one package.	4
8230	Authorizes shipment of certain oxidizers in non-DOT specification containers.	1
8232	Authorizes use of a non-DOT specification portable tank for the transportation of certain compressed gases.	2
8236	Authorizes shipment of a passive restraint system, and the inflator therefore, containing a Class B explosive as a flammable solid.	1
8238	Authorizes shipment of arsenical flue dust in non-DOT specification packaging.	2
8248	Authorizes shipment of various corrosive liquids in a modified DOT Specification 15C wooden box, compartmented to accommodate four (4) inner glass bottles, each secured in an aluminum canister.	2

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NUMBER	PURPOSE	REASON
8249	Authorizes hazardous materials, which are required to bear the POISON label, to be transported without the label when shipped in prescribed packagings.	1
8255	Authorizes use of a non-DOT specification cylinder for shipment of certain nonflammable gases.	2
8256	Authorizes shipment of stabilized sulfur trioxide in DOT Specification 105A100W and 111A100W2 tank cars equipped with standpipe electrical heaters and a modified safety relief device.	1
8264	Authorizes shipment of certain solid propellant explosives (Class B) and smokeless powders for small arms (flammable solids) in non-DOT specification fiber cans or tubes packed in fiberboard boxes.	1
8265	Authorizes transport of certain solid propellant explosives in non-DOT specification fiber tubes packed in telescoping DOT Specification 12B fiberboard boxes, and certain smokeless powders for small arms, in DOT Specification 21C fiber drums packed in fiberboard boxes.	1
8284	Authorizes shipment of oleum in DOT Specification 103AW or 111A100W2 tank cars equipped with safety valves instead of safety vents.	2
8288	Authorizes stowage of Class A explosives in portable magazines located on the deck of a vessel at a distance of less than the 25-feet from the crew quarters.	1
8289	Authorizes shipment of certain identified solid propellant explosives in non-DOT specification cylindrical metal cans overpacked in fiberboard boxes.	1
8299	Authorizes manufacture, marking and sale of non-DOT specification pressure vessels for shipment of a compressed gases.	2
8303	Authorizes shipment of a flammable solid in DOT Specification 56 aluminum portable tanks.	2
8307	Authorizes shipment of non-pyrotechnic mixture of certain corrosive materials, gas and an explosive charge in a non-DOT specification container.	2
8308	Authorizes carriage of radioactive materials aboard highway vehicles when the combined transport index exceeds 50 and or the separation criteria cannot be met.	2
8324	Authorizes shipment of certain corrosive liquids, n.o.s., in a one-gallon tin can, placed in a molded polyethylene liner, overpacked in a modified 26-gage, unlined DOT specification 37A drum.	2

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NUMBER	PURPOSE	REASON
8329	Authorizes use of DOT Specification 57 portable tanks in less than truckload quantities with other hazardous materials subject to 49 CFR 177.848 for the transportation of an oxidizing material.	2
8337	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks for shipment of flammable or corrosive waste, liquid, or semi-solids.	1
8339	Authorizes use of non-DOT specification 34 type polyethylene packaging for certain oxidizers, corrosive liquids, Class B poisons, flammable liquids, and a corrosive solid.	2
8344	Authorizes transport of fiberboard boxes containing different brands of smokeless powder without B of E approval of each box.	2
8352	Authorizes shipment of ammonium persulfate and sodium persulfate in non-DOT specification plastic bags similar to DOT Specification 44P bags.	2
8353	Authorizes an alternate closure device on DOT Specification 56 portable tanks used in the transportation of ammonium perchlorate, an oxidizer.	2
8361	Authorizes shipment of a temperature measuring device containing small quantity of gallium metal in non-DOT specification packaging.	2
8362	Authorizes shipment of batteries containing lithium metal and thionyl chloride in fiberboard boxes overpacked in wooden boxes.	1
8363	Authorizes shipment of certain identified solid propellant explosives.	1
8369	Authorizes transportation of glycidol at a controlled temperature and separated from certain other chemicals in non-DOT specification drums.	2
8377	Authorizes transport of devices described as detonating fuzes, Class C explosives, in fiberboard boxes inside wooden boxes.	2
8378	Authorizes use of DOT Specification 2E polyethylene bottles for dilute nitric acid solution.	2
8386	Authorizes transport of a Class B poison in special pressure sealed polyethylene capsules without the POISON label.	2
8387	Authorizes transport of hydrogen peroxide in DOT Specification MC 312 tank motor vehicle aboard cargo vessel.	2
8388	Authorizes shipment of liquid hazardous materials in a	2

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NUMBER	PURPOSE	REASON
	five-gallon capacity removable head polyethylene drum.	
8389	Authorizes use of a 15-gallon capacity polyethylene DOT Specification 34 packaging for shipment of certain poisonous liquids.	2
8390	Authorizes shipment of 95%-98% sulfuric acid in DOT Specification 2E polyethylene bottles overpacked in DOT Specification 12A80 fiberboard boxes.	2
8391	Authorizes use of a non-DOT specification cylinder for shipment of various nonflammable gases.	2
8394	Authorizes transport of certain thermostatic elements containing small quantities of sodium potassium alloy, liquid packed in a strong fiberboard box.	3
8396	Authorizes transport of a flammable liquid which is also an organic peroxide in DOT Specification MC-307 and MC-312 cargo tanks.	2
8397	Authorizes use of non DOT specification, reusable, molded polyethylene drums with removable head for shipment of various dry hazardous materials.	1
8407	Authorizes transport within plant over public highway via fork-lift trucks, waste residues, without shipping papers, contained in non-DOT specification portable tanks.	1
8408	Authorizes non-DOT specification cargo tanks complying with DOT Specification MC-307/312 except for bottom outlet valve variation, for transport of flammable or corrosive waste liquids or semi-solids.	2
8409	Authorizes shipment of hydrofluoric acid solution no greater than 70% in non-DOT specification polyethylene bottles not exceeding 6 liters capacity packed in DOT Specification 12A fiberboard box.	2
8410	Authorizes shipment of perchloric acid not to exceed 72% in glass bottles of not more than 2.5 liters overpacked 6 to a non-DOT specification IMCO 4C2 wooden box.	2
8414	Authorizes transport of certain nonflammable gases in non-DOT specification intermodal portable tanks.	2
8426	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying with DOT Specification MC-307/312 with certain exception for transport of liquid and semi-solid waste materials.	2
8427	Authorizes use of a DOT Specification 3A or 3E stainless steel cylinder for shipment of anhydrous hydrazine.	2
8431	Authorizes shipment of monochloroacetic acid solution, classed as a corrosive material in DOT Specification	2

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NUMBER	PURPOSE	REASON
	111A100W6 tank cars made of 316L stainless steel with bottom outlets and washout prohibited.	
8432	Authorizes transport of plastic bottles containing an aqueous solution of sodium perchlorate and plastic bottles containing aluminum powder together in the same outside packaging.	2
8436	Authorizes use of a stainless steel DOT Specification Type 304 stainless steel DOT Specification 3A, or 3E seamless cylinders for shipment of a flammable liquid.	2
8437	Authorizes shipment of a sodium nitrate mixture in non-DOT specification 50 pound plastic bags.	2
8439	Authorizes manufacture, marking and sale of non-DOT specification cylinders complying with DOT Specification 4DS, with certain exceptions, for shipment of various nonflammable compressed gases.	2
8445	Authorizes shipment of various hazardous substances and wastes packed in inside plastic, glass, earthenware or metal containers, overpacked in a DOT Specification removable head steel, fiber or polyethylene drum, only for the purposes of disposal, repackaging or reprocessing.	5
8450	Authorizes transport of rocket motors, Class B explosives, in non-DOT specification polyethylene containers.	1
8451	Authorizes transport of not more than 25 grams of high explosives and pyrotechnic materials in a special shipping container.	1
8453	Authorizes use of non-DOT specification cargo tanks and DOT Specification MC-306, MC-307, or MC-312 stainless steel cargo tanks to transport blasting agent.	2
8457	Authorizes shipment of lithium batteries, classed as a flammable solid, contained in specially designed electronic equipment.	2
8458	Authorizes conversion of DOT Specification 105A500W or 112A400W tank cars to a DOT Specification 111A100W2 tank car.	2
8464	Authorizes manufacture, marking and sale of non-DOT specification pressure vessel for transportation of nonflammable, nonliquefied gases.	2
8465	Authorizes manufacture, marking and sale of non-DOT specification plastic bag (comparable to a DOT Specification 44P), for shipment of ammonium nitrate fertilizer.	2
8467	Authorizes use of non-DOT specification IMCO Type V	2

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NUMBER	PURPOSE	REASON
	portable tanks for shipment of nonflammable gases.	
8468	Authorizes manufacture, marking and sale of DOT Specification 34 drums for shipment of certain flammable, poison B, corrosive liquids and organic peroxides.	2
8472	Authorizes use of non-DOT specification, metal, single trip, inside container for shipment of a nonflammable gas.	1
8473	Authorizes use of non-DOT specification IMCO Type V portable tanks for shipment of a flammable liquid.	2
8477	Authorizes use of a noninsulated DOT Specification 111A100W6 tank car, for shipment of thionyl chloride.	2
8478	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying with DOT specification MC-307/312 with certain exceptions, for transportation of liquid and semi-solid waste.	2
8480	Authorizes transport of a flammable gas in a device which allows a slow rate of leakage of the gas.	2
8487	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic aluminum lined full composite cylinders, for shipment of certain nonflammable compressed gases.	2
8489	Authorizes shipment of certain oxidizers and a corrosive material in a non-DOT specification collapsible, flexible bag, disposable bulk container.	2
8490	Authorizes use of a DOT Specification MC 306 cargo tank, for shipment of certain corrosive materials.	2
8494	Authorizes use of DOT Specification MC 307 cargo tanks equipped with sight glass gauges.	2
8495	Authorizes manufacture, marking and sale of non-DOT specification spherical containers similar to DOT Specification 4DS for shipment of bromotrifluoromethane pressurized with nitrogen.	1
8498	Authorizes use of a non-DOT specification 55 gallon polyethylene Specification 34 type packaging.	2
8499	Authorizes manufacture, mark and sale of DOT Specification 34 30-gallon polyethylene drums for shipment of certain flammable, corrosive, and Poison B liquids.	1
8507	Authorizes use of non-DOT specification containers for a nonflammable gas.	2
8509	Authorizes use of a safety relief valve in lieu of a	2

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NUMBER	PURPOSE	REASON
	safety vent in DOT Specification 111A100W5 tank car tanks.	
8510	Authorizes shipment of salt coated magnesium granules in a non-DOT specification container.	2
8516	Authorizes shipment of ammonium nitrate-fertilizer, classed as an oxidizer and ammonium nitrate-fuel oil, classed as a blasting agent to be stowed in the same hold or compartment aboard ship.	2
8518	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semi-solids.	2
8519	Authorizes stowage of motor vehicles containing gasoline, classed as a flammable liquid in same cargo compartment with other hazardous materials or specially equipped roll-on-roll-off cargo vessel.	2
8520	Authorizes "pipe test" in lieu of "fire test" for blasting agents that will be packaged in drum size containers not to exceed 55 gallons.	1
8522	Authorizes manufacture, marking and sale of non-reusable molded expanded polystyrene cases similar to DOT-33A except they will incorporate 6 cavities to contain a total of six 5-pint bottles.	2
8523	Authorizes shipment of various flammable and non-flammable compressed gases in non DOT specification IMCO Type 5 portable tanks.	2
8525	Authorizes shipment of monazite sand, classed as radioactive material, low specific activity, n.o.s. under modified exclusive use provisions.	2
8526	Authorizes shipment of flammable liquids and/or flammable gases in temperature controlled equipment.	2
8528	Authorizes use of DOT Specification 4L cylinders for a previously not authorized commodity.	2
8536	Authorizes an increased weight limitation for a 12B carton from 65 pounds to 80 pounds with the dry weight of material not to exceed 50 pounds for shipment of benzoyl peroxide.	2
8538	Authorizes shipment of a high explosive liquid in DOT Specification 15M boxes having inside 2-gallon polyethylene bottles wrapped in plastic bags and packed in sawdust.	1
8539	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or	1

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NUMBER	PURPOSE	REASON
	are in quantities greater than those prescribed for shipment by air.	
8540	Authorizes shipment of oxygen candles packaged in specially designed metal containers.	5
8545	Authorizes transport of limited quantities of liquid high explosives within inside polyethylene bottles, placed on a layer of sawdust on the bottom of a DOT-37A drum, placed in a DOT-15A wooden box.	1
8547	Authorizes shipment of phosphorous oxychloride in prescribed tank cars constructed of Type 316 stainless steel.	2
8549	Authorizes manufacture, marking and sale of certain non-DOT specification cargo tanks complying with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of liquid and semi-solid waste materials.	2
8550	Authorizes shipment of a hydrochloric acid/propanol mixture, classed as a flammable liquid in non-DOT specification 1 pint bottles not to exceed 6 bottles to 1 DOT Specification 12A fiberboard box.	2
8551	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for bottom outlet valve variations and certain other features, for transportation of flammable, corrosive, or poisonous waste liquids or semi-solids.	2
8552	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semi-solids.	2
8554	Authorizes transport of propellant explosives and blasting agents, in DOT Specification MC-306, MC-307, and MC-312 cargo tanks.	1
8555	Authorizes shipment of a large rocket motor segment on a special highway vehicle.	1
8556	Authorizes use of non-DOT specification portable tanks for shipment of liquefied hydrogen.	2
8558	Authorizes transport of a pharmaceutical described as an initiating explosive in a non-DOT specification polyethylene pail, overpacked in a 15-gallon DOT Specification 37A steel drum.	4
8561	Authorizes manufacture, marking and sale of non-DOT specification stainless steel cylinders similar to a DOT Specification 3HT, for shipment of oxygen.	2

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NUMBER	PURPOSE	REASON
8563	Authorizes shipment of an oxidizer and a corrosive material in compartmented DOT Specification MC-307 or MC-312 cargo tanks with double heads and completely separate loading and unloading systems.	2
8564	Authorizes shipment of lithium/thionyl chloride batteries in DOT Specification 19 wooden boxes.	2
8565	Authorizes shipment of calcium hypochlorite mixture, dry, in a DOT Specification 21C drum having an inner ply consisting of a lamination of polyester film mounted on the aluminum.	2
8568	Authorizes manufacture, marking and sale of certain non-DOT specification cargo tanks complying with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable, corrosive waste liquids or semi-solids.	2
8569	Authorizes shipment of 6.6 gallons of hydrazine, aqueous solution in non-DOT specification F-16 emergency fuel tanks.	1
8570	Authorizes manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank, for shipment of corrosive liquids and an oxidizer.	2
8571	Authorizes shipment of various flammable liquids packaged in a DOT Specification 12A80 corrugated fiberboard box with two inside metal containers not over 10-liter capacity each.	2
8572	Authorizes shipment of a limited number of packages of nitro carbo nitrate, after December 31,1980, bearing the oxidizer label.	2
8573	Authorizes manufacture, marking and sale of non-DOT specification polyethylene bottles for shipment of certain oxidizers, overpacked in a DOT Specification 12B fiberboard box.	2
8577	Authorizes shipment of certain alkaline corrosive liquids n.o.s., in a two quart polyethylene bottle, placed in a molded polyethylene liner, overpacked in a DOT Specification 37C steel drum.	2
8580	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	2
8582	Authorizes transport of railway track torpedoes and fusees packed in metal kits, in motor vehicles by railroad maintenance crews as non-regulated rail carrier equipment.	1

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NUMBER	PURPOSE	REASON
8585	Authorizes manufacture, marking and sale of non-DOT specification reusable, rotationally molded, polyethylene container, for shipment of certain corrosive liquids and oxidizer.	2
8597	Authorizes transport of nitric acid in non-DOT specification stainless steel portable tanks within plant premises over public road.	2
8602	Authorizes manufacture, marking and sale of non-DOT specification vaccum insulated portable tanks for shipment of argon, nitrogen and oxygen.	2
8609	Authorizes manufacture, marking and sale of non-DOT specification removable head steel drums complying with DOT Specification 17H, for shipment of Poison B material in the same vehicle with foodstuff.	2
8612	Authorizes use of a DOT Specification 107A4300 tank car tanks for shipment of a flammable compressed gas.	1
8614	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8620	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semi-solids.	2
8621	Authorizes loading of ammonium nitrate mixtures containing more than 60% ammonium nitrate with no organic coating contained in combustible packagings on a break-bulk basis at a non-isolated facility.	5
8627	Authorizes shipment of various flammable liquids or corrosive materials (oil well treating compounds) contained in 6 separate 60 gallon steel tanks firmly mounted on the chassis of a truck.	2
8645	Authorizes shipment of a viscous oxidizing material in DOT Specification MC-307/311 insulated tank motor vehicles at ambient temperature.	2
8646	Authorizes transport of an explosive pest repellant device in limited quantities in non-DOT specification inner fiberboard cartons.	5
8647	Authorizes transport of pressurized liquid oxygen in 4L cylinders by cargo aircraft only.	2
8667	Authorizes transport of steel encapsulated sources containing Type B quantities of Cesium 137, contained in calibrated radiological instruments which do not meet	2

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NUMBER	PURPOSE	REASON
	all current testing requirements.	
8673	Authorizes limited shipments of inhibited hydrochloric acid solution in a DOT Specification 60 rubber lined portable tank.	5
8674	Authorizes shipment of nitro-carbo-nitrate in a concrete mixer lined with cold tar epoxy.	2
8678	Authorizes use of non-DOT specification IMCO Type V portable tank, for shipment of flammable and nonflammable gases.	2
8679	Authorizes shipment of a water reactive material packaged in the same outside packaging with other hazardous materials.	5
8680	Authorizes manufacture, marking and sale of non-DOT specification cylinders complying with DOT Specification 4BW with certain exceptions, for shipment of compressed gases.	2
8682	Authorizes manufacture, marking and sale of certain non-DOT specification cargo tanks complying with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable, corrosive waste liquids or semi-solids.	2
8684	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks constructed in accordance with DOT Specification MC 331 with certain exceptions, for the shipment of nonflammable gases.	2
8685	Authorizes shipment of ammonium nitrate fertilizer (prills) in collapsible polyethylene-lined, woven polypropylene bags having a capacity of approximately 2,240 pounds each.	2
8689	Authorizes manufacture, marking and sale of a non-DOT specification oil well sampling device for the shipment of various compressed gases, n.o.s.	2
8690	Authorizes a one-time shipment of 25 DOT Specification 3BN400 cylinders without safety relief devices, containing nitrosyl chloride, a liquefied non-flammable compressed gas.	3
8691	Authorizes shipment of aluminum chloride contaminated with phossene, in packages presently authorized under Section 173.245b(a)(1), (4), (8), (9), (10).	2
8692	Authorizes shipment of sodium persulfate in collapsible polyethylene-lined, woven polypropylene bags having a capacity of approximately 2,200 pounds each.	2
8693	Authorizes shipment of sodium, metal dispersion in organic solvent in DOT Specification 4BW240 cylinders.	2

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NUMBER	PURPOSE	REASON
8698	Authorizes manufacture, marking and sale of non-DOT specification portable tanks for shipment of non-pressurized liquid nitrogen.	2
8708	Authorizes use of non-DOT specification steel drums (overpacked, palletized and containerized) for shipment of a Class B poison.	4
8710	Authorizes shipment of an organic peroxide classed as a flammable liquid, in a DOT Specification MC-307/312 cargo tank equipped with temperature and pressure sensing devices.	2
8716	Authorizes multi-trip use of DOT Specification 17C steel drums for shipment of lithium metal, ingots, immersed in oil.	3
8718	Authorizes manufacture, marking and sale of non-DOT specification, limited cycle life, fiberglass reinforced plastic cylinders, for shipment of various non-flammable compressed gases.	2
8722	Authorizes shipment of hydrazine in non-DOT Specification nonpressurized Type 347 stainless steel storage tanks overpacked in a stainless steel shipping container.	2
8723	Authorizes use of non-DOT specification motor vehicles for bulk shipment of certain blasting agents.	5
8725	Authorizes manufacture, marking and sale of non-DOT Specification fiber reinforced plastic hoop wrapped cylinders, for shipment of certain compressed gases.	2
8732	Authorizes shipment of monoethanolamine, classed as a corrosive material in DOT Specification MC-306 cargo tanks constructed of steel and aluminum.	2
8733	Authorizes shipment of various refrigerant gases, classed as nonflammable gases in non-DOT specification portable tanks constructed in accordance with ASME Section VIII and DOT Specification 51, but not certified.	2
8737	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semi-solids.	2
8739	Authorizes carriage of hand wrapped newspaper bundles of paper scraps in a freight container with the total weight of the container listed on the dangerous cargo manifest.	1
8741	Authorizes carriage of various Class A explosives not	1

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NUMBER	PURPOSE	REASON
	permitted for air shipment.	
8747	Authorizes shipment of alkaline corrosive liquid, n.o.s., classed as a corrosive material in DOT Specification 37C, unlined, removable head 5-gallon steel pails.	2
8748	Authorizes shipment of boron trifluoride, classed as a nonflammable gas in non-DOT specification containers when shipped as a component of a radiation detector.	2
8751	Authorizes shipment of various corrosive waste liquids or semi-solids in non-DOT specification cargo tanks similar to DOT Specification MC-312 except for bottom outlet valve variations.	2
8753	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks, for shipment of nonflammable gases.	2
8755	Authorizes shipment of gasoline and turbine fuel, classed as flammable liquids in non-DOT specification rubberized fabric containers of up to 500 gallon capacity.	2
8758	Authorizes manufacture, marking and sale non-DOT specification portable tanks, for shipment of certain nonflammable gases.	2
8760	Authorizes display of FLAMMABLE placards, showing identification number (1993), on Barton Solvents, Inc. cargo tanks specified for the materials and having six or more compartments when transporting one or more hazardous material.	5
8761	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying with DOT Specification MC-307/312 except for bottom outlet valve variations for transportation of liquid and semi-solid waste materials.	2
8764	Authorizes transport of an identification kit containing a propane torch and small quantities of a corrosive liquid, flammable liquid and an oxidizer aboard cargo aircraft only (helicopter).	2
8770	Authorizes shipment of a corrosiive liquid and minute quantity of a flammable, poisonous solid in DOT Specification 12A, 12B or 15A fiberboard or wooden boxes with inside glass bottles.	2
8772	Authorizes increased quantity, not exceeding 5 gallon capacity, in packages of certain corrosive liquids and flammable liquids that are corrosive, when shipped via cargo aircraft only.	3
8779	Authorizes shipment of phenol, classed as a poison B, in	2

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NUMBER	PURPOSE	REASON
	DOT Specification 57 portable tanks.	
8780	Authorizes manufacture, marking and sale of non-DOT specification reusable, blowmolded, polyethylene container for transportation of certain corrosive liquids and an oxidizer.	2
8781	Authorizes manuacture, marking and sale of non-DOT specification steel drums one millimeter thickness, to be used in place of 20/18 gauge, 55-gallon capacity DOT Specification 17E drums, for transportation of various hazardous materials.	2
8786	Authorizes use of a non-DOT specificaion cylinder, for shipment of limited quantities of compressed gases.	3
8787	Authorizes transport of certain flammable and corrosive liquids in DOT Specification 2E polyethylene bottles, packed in a DOT Specification 12B fiberboard box.	2
8791	Authorizes use of a non-DOT specification portable tank, for transportation of ethyl chloroformate.	2
8792	Authorizes small quantities of isopropyl alcohol in a saturated pad, sealed in a plastic coated foil pack, overpacked not to exceed 250 packs per strong outside box, as essentially non-regulated.	2
8793	Authorizes shipment of potassium cyanide solution, n.o.s. Class B poison, in DOT Specification 2E one-gallon polyethylene bottles, overpacked in DOT Specification 12B fiberboard box.	2
8794	Authorizes transport via priviate carriage of unpackaged radioactive materials, low specific activity, n.o.s. in mobile transport vehicles without determining equipment contamination levels, without shipping paper, and without issuing instructions for exclusive use of vehicle.	1
8795	Authorizes manufacture, marking and sale of non-DOT specification cylinders made in compliance with DOT Specification 4B240ET, for transportation of nonflammable gases.	2
8802	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for transportation of liquefied compressed gases.	2
8804	Authorizes use of non-DOT specification portable tanks desigsned and constructed in accordance with DOT Specification 51 with certain exceptions, for transportation of liquefied compressed gases.	2
8806	Authorizes manufacture, marking and sale of non-DOT specification steel drums, for transportation of various hazardous materials.	2

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NUMBER	PURPOSE	REASON
8809	Authorizes manufacture, marking and sale of non-DOT specification fiber drum overpacks for 15-gal capacity inner polyethylene container, similar to DOT-12P/2U except top head is molded polyolefin polymer secured to drum by wire stitches, for shipment of commodities authorized in DOT-21P/2U composite	2
8811	Authorizes use of modified DOT Specification MC-312 cargo tanks made of titanium for shipment of certain corrosive materials.	2
8812	Authorizes manufacture, marking and sale of non-DOT specification five gallon metal containers comparable to DOT Specification 5L, for shipment of gasoline, and gasohol, classed as flammable liquids.	2
8813	Authorizes shipment of flammable and combustible liquids contained in compartmented cargo tanks to use only one identification number associated with the product having the lowest flash point.	2
8815	Authorizes transport of certain blasting agents in a cement mixer motor vehicle.	2
8816	Authorizes rail boxcar shipment of matches, strike anywhere, packed in compliance with 49 CFR 173.176 and in a quantity not to exceed 2,000 pounds without placarding the rail boxcar.	2
8817	Authorizes shipment of fluosulfonic acid in non-DOT specification acid-resistant screw cap glass bottles, overpacked in metal cans, packed in a DOT Specification 15A, 15B, 15C, 16A, or 19A wooden box.	2
8818	Authorizes shipment of bromine, a corrosive material in DOT Specification 105A500W tank car tanks having 263,000 pounds gross weight on rail.	2
8820	Authorizes use of a non-DOT specification IMCO Type 5 portable tank, for transportation of liquefied compressed gases.	2
8822	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks made in full compliance with DOT Specification MC-307 or MC-312 with certain exceptions, for transportation of certain waste hazardous materials.	2
8824	Authorizes carriage of certain Class and B explosives that are not permitted for air shipment or in quantities greater than those prescribed for shipment by air.	2
8826	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1

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NUMBER	PURPOSE	REASON
8831	Authorizes shipment of potassium hydroxide solution, not exceeding one gallon, in non-DOT specification blotter like material within a module overpacked in a plywood case, excepted from labeling.	2
8837	Authorizes manufacture, marking and sale of non-DOT specification portable steel tanks with a polyethylene liner for shipment of a corrosive liquid, n.o.s.	2
8838	Authorizes shipment of trichloro-s-triazinetrione, classed as an oxidizer in drums of not over 51 gallons capacity similar to DOT Specification 21C fiber drum except for plastic top head.	2
8839	Authorizes manufacture, marking and sale of non-DOT specification rationally molded, cross-linked polyethylene portable tank, for shipment of corrosive liquids and an oxidizer.	2
8840	Authorizes manufacture, marking and sale of non-DOT specification inside seamless aluminum containers for transportation of various compressed gases.	2
8842	Authorizes use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use or military weapons system only.	2
8843	Authorizes manufacture, marking and sale of non-DOT specification cylinders, for shipment of bromine trifluoride, classed as an oxidizer, to be shipped without the poison label.	2
8844	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks designed and constructed in full compliance with DOT Specification MC-307 or MC-312 with certain exceptions, for transportation of certain hazardous materials.	2
8845	Authorizes transportation of charged oil well jet perforating guns equipped with detonator and arrest device, classed as explosive A and C.	2
8850	Authorizes manufacture, marking and sale of non-DOT specification stainless steel, cubical-shaped container, for shipment of those liquid hazardous materials for which DOT Specification 5, 5B, 5C or 17E drums are prescribed.	2
8851	Authorizes manufacture, marking and sale of non-DOT specification portable tanks, for shipment of liquefied argon and liquefied carbon dioxide classed as nonflammable gases.	2
8852	Authorizes shipment of a certain flammable liquid, n.o.s. contained in four 2 liter polyethylene terephthalate bottles overpacked in a DOT Specification	2

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NUMBER	PURPOSE	REASON
	12B fiberboard box.	
8854	Authorizes manufacture, marking and sale of non-DOT specification IMCO Type 5 portable tanks, for shipment of hydrogen fluoride, classed as a corrosive material.	2
8859	Authorizes shipment of a compressed gas in accumulators which deviate from required test criteria.	5
8860	Authorizes extended periods in the retest frequency of DOT Specifications 103CW and 103EW tank cars in chlorosulfonic acid and nitric acid service.	1
8861	Authorizes manufacture, marking and sale of DOT Specification 57 portable tanks, for shipment of various flammable liquids which are also corrosive or poison and certain Class B poison liquids.	2
8862	Authorizes shipment of propylene oxide, classed as a flammable liquid in DOT Specification 5P metal drums.	2
8864	Authorizes transport of a corrosive liquid, n.o.s. in existing non-DOT specification cargo tanks comparable to DOT Specification MC-312 except for remote release valve and overturn protection.	2
8865	Authorizes shipment of helium, classed as a nonflammable gas in a manifolded pressure vessel system including a steel cylinder similar to DOT Specification 39.	2
8867	Authorizes shipment of a viscous flammable liquid, n.o.s. contained in a poly vinyl chloride bottle overpacked six to a DOT Specification 12B fiberboard box.	2
8870	Comingles compatible hazardous materials of various classifications packed in separate inside receptacles not exceeding 8 fluid ounces or 1/2 lb. packed inside a strong outside container, labeled according to the highest order of hazard, and described as chemical kit.	1
8871	Authorizes manufacture, marking and sale of large, collapsible polyethylene lined woven polypropylene bulk bags, having a capacity of approximately 2000 pounds each, and top and bottom outlets, for shipment of corrosive solids and nitrates.	2
8872	Authorizes manufacture, marking and sale of non-DOT specification polyethylene valve-type bags, for transportation of rubber scrap.	2
8873	Authorizes shipment of carbon disulfide, classed as a flammable liquid, in a special DOT Specification MC-312 cargo tank.	5
8874	Authorizes manufacture, marking and sale of non-DOT specification aluminum cylinders made in compliance with	2

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NUMBER	PURPOSE	REASON
	DOT Specification 3AL with certain exception, for transportation of nonflammable gases.	
8877	Authorizes shipment of certain materials described as flammable liquids, corrosive, n.o.s. (corrosive to skin only) and corrosive liquids, n.o.s., in DOT-12B65 fiberboard boxes with inside glass bottles having a capacity not to exceed one-gallon.	2
8878	Authorizes shipment of germanium tetrachloride, corrosive liquid, n.o.s., in glass containers of less than 3 gallon capacity, surrounded by vermiculite placed in a cylindrical steel overpack, packed six to a compartmented wooden box.	2
8879	Authorizes manufacture, marking and sale of non-DOT specification stainless steel cylinders, for transportation of compressed gases.	2
8883	Authorizes shipment of an oxidizer, corrosive liquid, n.o.s., classed as an oxidizer in DOT Specification 57 portable tanks.	2
8885	Authorizes shipment of certain alkaline corrosive liquids, n.o.s., in an unlined tin cans, overpacked in non-DOT specification removable head polyethylene pails of 5 or 6 gallon capacity, also containing a nonhazardous resin mix.	2
8886	Authorizes a longer time period between retests of DOT Specifiation 4B or 4B240ET cylinders containing nonflammable gas.	2
8888	Authorizes shipment of approximately 5,500 gallons of compound cleaning, liquid in DOT Specification 37M steel drums with 2SL polyethylene inside container having a capacity exceeding the net quantity limitations for cargo only aircraft.	5
8890	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8891	Authorizes shipment of cigarette lighters containing flammable gas fuel and equipped with an ignition device packed to meet the test criteria for UN Specification 4GX.	1
8893	Authorizes shipment of a liquid formulation containing a liquid explosive ingredient described as flammable liquid, n.o.s., in various DOT specification metal drums.	2
8897	Authorizes use of a non-DOT specification rotationally molded, linear low density polyethylene portable tank, for shipment of corrosive liquids.	2

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NUMBER	PURPOSE	REASON
8898	Authorizes use of a non-DOT specification ASME Code stamped portable tank, for transportation of liquefied compressed gases.	2
8900	Authorizes manufacture, marking and sale of welded non-DOT specification stainless steel cylinders complying with DOT Specification 3HT, for transportation of nonflammable gases.	2
8901	Authorizes shipment of chloropicrin, in polyethylene bottles overpacked in non-DOT specification triple-wall, corrugated fiberboard boxes.	2
8903	Authorizes shipment of a new initiating explosive, Class A, in plastic bottles, overpacked in DOT Specification 5, 5B or 17H steel drums.	2
8904	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for bottom outlet valve variation and certain other features, for transportation of falmmable, corrosive or poisonous waste liquids or semi-solids.	2
8906	Authorizes shipment of used, essentially empty containers with residual amounts of carbofuran, packed in a non-DOT specification double wall BC flure corrugated fiberboard box.	2
8908	Authorizes shipment of dry chromic acid, in non-DOT specification collapsible polyethylene-lined, woven polypropylene bags.	2
8910	Authorizes use of non-DOT specification rotationally molded, linear low density polyethylene portable tank enclosed in a steel case, for shipment of corrosive liquids.	2
8911	Authorizes shipment of scrap, guillotined small arms ammunition loosely packed in non-DOT specifiation, nonreusable, closed-top wooden crates or fiberboard boxes, in truck load lots to an incinerator for disposal.	2
8912	Authorizes manufacture, marking and sale of non-DOT specification steel drums of one millimeter thickness, to be used in place of 20/18 gauge, 55-gallon capacity, DOT-17E steel drums.	2
8913	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for shipment of flammable liquids.	2
8914	Authorizes shipment of certain flammable and nonflammable compressed gases in DOT Specification 3AA, 3A, 3AX and 3T cylinders.	2

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NUMBER	PURPOSE	REASON
8915	Authorizes shipment of various flammable and non-flammable compressed gases in DOT Specification 3A, 3AA, 3AX, 3AAX and 3T cylinders.	1
8917	Authorizes transport ammonium nitrate prills in large, lined steel container.	2
8919	Authorizes transport of small quantities of a medical product containing ethyl alcohol in heat sealed glass ampules, packed in a corrugated outside fiberboard box.	2
8920	Authorizes manufacture, marking and sale of non-DOT specification welded high pressure nonrefillable cylinders, for transportation of nonflammable, liquefied gases.	2
8921	Authorizes manufacture, marking and sale of nonreusable non-DOT Specification steel jacketed polyethylene portable tanks, for transportation of corrosive liquids.	2
8923	Authorizes transport of a flammable liquid which is also corrosive in DOT Specification 51 portable tanks.	2
8927	Authorizes manufacture, marking and sale of non-DOT specification girth, welded steel spheres, for transportation of nonflammable gases.	2
8931	Authorizes shipment of sulfuric acid, classed as a corroisve material in DOT Specification 111A100W2 tank cars equipped with bottom outlets.	2
8932	Authorizes use of cargo tanks complying with DOT Specification MC-307 and MC-312, for transportation of organic peroxide solution.	2
8933	Authorizes transport of an electric car, containing a sodium-sulfur battery which is below its operating temperature or is depleted.	1
8936	Authorizes shipment of a mixture containing 57% chloropicrin and 43% 1,3-dichloropropene, 1,2-dichloropropane and related hydrocarbons, respectively, by weight, in non-authorized DOT Specification 5B metal drums.	2
8937	Authorizes shipment of coated magnesium granules in non-DOT specification collapsible flexible bag, disposable bulk container.	2
8938	Authorizes manufacture, marking and sale of DOT Specification 4L welded cylinders, for transportation of nonflammable gases.	2
8939	Authorizes manufacture, marking and sale of six non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of flammable liquids and corrosive	5

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NUMBER	PURPOSE	REASON
	liquids.	
8940	Authorizes shipment of sodium, metal dispersion in organic solvent, in DOT Specification 5, 4C, 6B or 6C closed head metal drums, overpacked in DOT Specification 17H drums.	2
8942	Authorizes manufacture, marking and sale of steel jacketed non-DOT specification rotationally molded, cross-linked polyethylene portable tanks, for shipment of corrosive liquids and an oxidizer.	2
8943	Authorizes shipment of a polyol filter cake classed as a flammable solid, a non-DOT specification open top, metal cargo carrying box.	2
8946	Authorizes shipment of nitrocellulose wet with no less than 30% by weight of heptane, in DOT Specification containers.	2
8947	Authorizes shipment of an organic peroxide, liquid or solution, n.o.s. (methyl ethyl ketone peroxide) up to 1 oz. capacity heat sealed polyethylene tubes contained in a polyethylene bag, overpacked in a fiberboard box not to exceed 1000 tubes per box.	2
8950	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for transportation of certain flammable and nonflammable compressed gases.	2
8952	Authorizes use of a DOT Specification 21C fiber drum, for transporting desensitized HMX (cyclotetramethylene tetranitramine).	2
8953	Authorizes shipment of metallic sodium fused solid, in a non-DOT specification aluminum can, overpacked in a non-DOT specification removable head, single-trip steel drum.	2
8955	Authorizes transport of charged oil well guns with detonators attached.	2
8956	Authorizes manufacture, marking and sale of non-DOT specification stainless steel cylinders, for transportation of nonflammable gases, flammable gases or flammable liquids.	2
8958	Authorizes transport of limited quantities of black powder, classed as a flammable solid, in DOT Specification 12H fiberboard boxes.	3
8959	Authorizes shipment of nitrogen or nitrogen mixtures in steel hydraulic accumulators.	2
8960	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or	2

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NUMBER	PURPOSE	REASON
	are in quantities greater than those prescribed for shipment by air.	
8962	Authorizes manufacture, marking and sale of non-DOT specification birth welded stainless steel cylinders, for transportation of a compressed gas.	2
8963	Authorizes transort of a rocket motor in a propulsive state, in a DOT Specificatio 15A wooden box.	3
8964	Authorizes manufacture, marking and sale of DOT Specification 4B cylinders that are stamped with prescribed markings in the foot ring of the cylinder containing non-corrosive fire suppressant agents only.	2
8965	Authorizes manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for shipment of certain compressed gases.	1
8966	Authorizes shipment of sodium hypochlorite solution in four one-gallon polyethylene bottles enclosed in a bag of polyethylene film, packed in a corrugated fiberboard box complying with DOT Specification 12B except for hand holes authorized in side panels of box.	2
8967	Authorizes shipment of a solid propellant explosive, in a non-DOT specification fiberboard tube, overpacked in a non-DOT specification palletized metal case.	2
8968	Authorizes use of a non-DOT specification IMO Type 1 portable tank, for transportation of a flammable solid.	2
8969	Authorizes shipment of certain rocket motors with igniter installed.	3
8970	Authorizes shipment of arsenical dust, in a non-DOT specification cylindrical steel container.	2
8971	Authorizes use of non-DOT specification steel cylinders of equal or greater integrity than those currently authorized, for transportation of a liquid oxidizer.	2
8975	Authorizes manufacture, marking and sale of 6-60 gallon non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of flammable and corrosive liquids.	2
8976	Authorizes a one-time reuse of DOT Specification 17H steel drums, having a liner of polyethylene film and which deviate from retest requirements, for shipment of sodium hydrosulfite.	2
8977	Authorizes use of a non-DOT specification IMO-Type 5 portable tank, for transportation of liquefied compressed gases.	2
8978	Authorizes transport of lithium cells containing more	2

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NUMBER	PURPOSE	REASON
	than 12, but not more than 50, grams of lithium metal, in non-DOT specification, non-reusable, open head, steel drums.	
8983	Authorizes transport of aircraft rocket engines, commercial, which do not comply with the requirements of 49 CFR 173.238, Note 1, as engines contain a small amount of Class B explosives.	3
8985	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	2
8986	Authorizes transport of slurry blasting agent in non-DOT specification stainless steel cargo tanks.	2
8987	Authorizes manufacture, marking and sale of DOT Specification 2SL inside polyethylene containers of Type III, high density, high molecular weight resin, for transportation of those commodities presently authorized to be packaged in a DOT Specification 2SL inside polyethylene container.	2
8988	Authorizes transport of charged oil well guns as Class C explosive when the net weight of explosive material in the vehicle or vessel does not exceed 200 pounds.	2
8990	Authorizes manufacture, marking and sale of non-DOT specification nonrefillable steel inside cylinders, for transportation of nonflammable compressed gases.	2
8991	Authorizes transport of packages bearing the DANGEROUS WHEN WET label, in motor vehicles which are not placarded FLAMMABLE SOLID W.	2
8992	Authorizes transport of certain explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	2
8995	Authorizes use of non-DOT specification steel portable tanks, for transportation of certain nonpoisonous, nonflammable compressed gases.	2
8998	Authorizes shipment of nitrogen in hydraulic accumulators.	2
8999	Authorizes transport of emergency oxygen generators without marking, labeling, shipping papers or specification packaging.	2
9001	Authorizes manufacture, marking and sale of non-DOT specification steel cylinders complying in part with DOT Specification 3T cylinders, for transportation of certain nonflammable and flammable gases.	2
9002	Authorizes shipment of flavoring components, in non-DOT	2

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NUMBER	PURPOSE	REASON
	specification fiberboard boxes with inside polyethylene bottles.	
9003	Authorizes a one-time shipment of sodium metal in non-DOT specification steel portable tanks.	3
9004	Authorizes manufacture, marking and sale of non-DOT specification containers, for transportation of flammable liquids and flammable gases.	2
9005	Authorizes carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
9010	Authorizes shipment of rocket motors, Class B explosive in a specially designed container to be shipped in a propulsive state.	2
9011	Authorizes certain DOT Specification 5, 6 and 17 series drums constructed of stainless steel, nickel or monel to be exempt from certain steel drum test requirements, for shipment of those commodities presently authorized for each drum.	2
9014	Authorizes manufacture, marking and sale of non-DOT specification reusable, high density, blowmolded, polyethylene containers, for transportation of certain corrosive liquids and oxidizers.	2
9015	Authorizes shipment of dry trichloro-s-triazinetrione containing 90% available chlorine in collapsible, polyethylene-lined, woven polypropylene bags having a capacity of not more than 2000 pounds each.	1
9016	Authorizes manufacture, marking and sale of a non-DOT specification fiber drum not to exceed 110 liter capacity, for shipment of certain flammable liquids and flammable solids.	2
9017	Authorizes shipment of hydrogen fluoride anhydrous in non-DOT specification IMO Type portable tank comparable to DOT Specification 51.	2
9019	Authorizes use of a marine portable tank, for transportation of flammable, corrosive and combustible liquids.	5
9023	Authorizes shipment of various refrigerant gases in non-DOT specification IMO Type 5 portable tanks.	2
9024	Authorizes shipment of various refrigerant gases in non-DOT specification IMO Type 5 portable tanks.	2
9026	Authorizes manufacture, marking and sale of non-DOT specification fiber drums of not over 75-gallon capacity, similar to DOT Specification 21C except that	2

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NUMBER	PURPOSE	REASON
	the top head is of molded polyethylene and secured to the sidewall by a lever locking ring.	
9027	Authorizes a one-time reuse of DOT Specification 37A containers for shipment of chromic acid, solid and chromic acid mixture, classed as an oxidizer.	3
9030	Authorizes use of non-DOT specification, metal, single trip, inside container, for shipment of a nonflammable gas.	2
9034	Authorizes shipment of insecticide, liquefied gas (containing no poison A or B material) insecticide, liquefied gas (containing poison A and B material), compressed gas, n.o.s., disilane and disilane mixture in DOT Specification 3AL cylinders.	2
9036	Authorizes manufacture, marking and sale of cylinders complying with Specification 3AA except for inspection of certain billets after parting, for shipment of those gases presently authorized in DOT Specification 3AA cylinders.	2
9040	Authorizes manufacture, marking and sale of non-DOT specification fiber drums of not over 55-gallon capacity, lined or coated on the inside with a plastic material, and having modified non-removable top heads of steel or plastic, for transportation of certain corrosive liquids.	2
9041	Authorizes shipment of devices, in specially designed packagings, containing small amounts of explosive described as detonating fuze, Class C.	2
9048	Authorizes manufacture, marking and sale of non-DOT specification containers, for transportation of flammable liquids and gases.	2
9050	Authorizes carriage of ammunition for small-arms with explosive projectile, Class A explosive via cargo aircraft only.	1
9051	Authorizes manufacture, marking and sale of DOT Specification 4B cylinders with markings stamped on the skirt or footstand of the cylinders, for shipment of those commodities presently authorized in DOT Specification 4B cylinders.	2
9052	Authorizes manufacture, marking and sale of non-DOT specification 225 gallon rotationally molded polyethylene portable tanks, for shipment of those corrosive liquids and hydrogen peroxide presently authorized in DOT Specification 34 and certain flammable liquids.	2
9053	Authorizes the rebuilding of DOT Specification 4 and 8 series cylinders in accordance with procedures approved	2

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NUMBER	PURPOSE	REASON
	initially by the Bureau of Explosives.	
9056	Authorizes shipment of certain identified solid propellant explosives, in polyethylene bottles packed in DOT Specification 12B boxes.	5
9059	Authorizes shipment of a fluorine - Helium mixture contained in appropriate DOT Specification cylinders, to be described as fluorine mixture classed as nonflammable gas.	2
9060	Authorizes manufacture, marking and sale of non-DOT specification super insulated portable tanks, for shipment of nonflammable gas.	2
9061	Authorizes shipment of small quantity of a flammable solid labeled Flammable Solid and Dangerous When Wet but without a Flammable Solid W placard on the vehicle.	2
9062	Authorizes use of DOT Specification 57 carbon steel portable tanks, for transportation of a corrosive liquid.	2
9064	Authorizes shipment of corrosive materials, in a glass container placed in a cushioned cylindrical steel overpack, which is then packed in a cushioned plywood box, of which no more than four can be overpacked in a compartmented wooden outer box.	2
9066	Authorizes transport of an airbag gas generator as flammable solid, in a box constructed of single wall corrugated fiberboard with an inside styrofoam container insert for shock absorption.	1
9069	Authorizes return shipment of one rocket motor having gross weight in excess of 172.102, with nonhazardous materials.	3
9077	Authorizes transport of railway track torpedoes and railway fusees in flagging kits constructed of 24 gauge galvanized steel.	1
9078	Authorizes use of DOT Specification 57 stainless steel portable tanks, for transportation of a waste formic acid/phenol mixture.	2
9079	Authorize use of carbon steel DOT Specification 51 portable tanks, for transportation of a liquefied compressed gas.	2
9081	Authorizes shipment of chromic acid solid, classed as an oxidizer, in DOT Specification 21C fiber drum lined with plastic other than the saran material.	2
9088	Authorizes use of a DOT Specification 105A500W tank car tank with a maximum commodity weight of 178,000 pounds, for transportation of a corrosive material.	2

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NUMBER	PURPOSE	REASON
9089	Authorizes manufacture, marking and sale of DOT Specification 56 portable tanks, with one specification deviation compensated by additional structural features, for transportation of oxidizers.	2
9101	Authorizes shipment of several rocket motors having gross weight in excess of 172.102 by cargo aircraft only.	2
9104	Authorizes one-time movements of non-DOT specification packages to disposal facilities, and exception to listing hazardous substances constituents or poisonous materials constituents on shipping papers.	3
9108	Authorizes transport of an initiating explosive in a plastic bag, packed in a DOT Specification 12H fiberboard box.	2
9110	Authorizes shipment of sodium chlorate, in non-DOT specification collapsible polyethylene-lined, woven polypropylene bags.	2
9116	Authorizes manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank enclosed within a protective steel frame, for shipment of corrosive liquids, flammable liquids or an oxidizer.	2
9118	Authorizes shipment of 1,2-benzisothiazolin-3-one in aqueous solution or dispersion, either by itself or in combination with ethylenediamine or sodium hydroxide, in DOT Specification 57 steel portable tanks.	2
9119	Authorizes manufacture, marking and sale of DOT Specification 34 drums, for shipment of certain flammable liquids.	2
9121	Authorizes shipment of one rocket motor having gross weight in excess of that specified in 49 CFR 172.101.	2
9125	Authorizes manufacture, marking and sale of wooden boxes comparable to DOT Specification 15A or 15B, except that boxes are constructed of mediterranean pine, for shipment of liquid bromine.	2
9126	Authorizes manufacture, marking and sale of DOT Specification 6D drum to be marked by embossing on the top permanent head instead of the bottom permanent head and that the drum need not be marked with the exemption number.	2
9129	Authorizes repairing, rebuilding, retesting, marking and sale of any DOT Specification 4B, 4BA and 4BW low pressure steel cylinders.	2
9130	Authorizes shipment of an oxidizer, n.o.s., in	2

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NUMBER	PURPOSE	REASON
	polyethylene containers of not over 10 pounds capacity each, overpacked in a non-DOT specification corrugated fiberboard box as prescribed in 49 CFR 173.217(c).	
9131	Authorizes manufacture, marking and sale of non-DOT specification 55-gallon polyethylene Specification 34 type containers, for transportation of corrosive liquids.	2
9133	Authorizes shipment of a formulated dry organophosphorous pesticide in a DOT Specification 56 metal portable tank.	2
9134	Authorizes use of non-DOT specifiation IMO Type 5 portable tanks, for transportation of certain corrosive materials.	2
9136	Authorizes manufacture, marking and sale of DOT Specification 34 drums of up to 30 gallon capacity, for shipment of various poison B liquids, flammable liquids, organic peroxides, oxidizers and corrosive materials.	3
9138	Authorizes shipment of nitrogen in a fiber reinforced plastic full composite cylinder without a safety relief device.	2
9141	Authorizes shipment of certain hand signal devices, as a flammable solid instead of a class C explosive.	2
9144	Authorizes manufacture, marking and sale of large, non-DOt specification collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2,000 pounds each, for shipment of oxidizers and corrosive solids.	2
9145	Authorizes use of a non-DOT specification container, for shipment of flammable gases.	2
9146	Authorizes manufacture, marking and sale of non-DOT specification steel drums of one millimeter thickness, to be used in placed of 20/18 gauge, 55-gallon capacity, DOT Specification 17E drums.	2
9147	Authorizes ammonium nitrate fertilizer, in multi-wall paper bags with a polyethylene liner up to 100 pounds capacity to be shipped without identification number displayed on the bags.	2
9148	Authorizes shipment of acrylonitrile in glass bottles in DOT-19B wood boxes which are fitted with inside corrugated fiberboard linings, partitions and dividers instead of absorbent cushioning material; and authorizes packages of organic peroxide and corrosive material to be shipped in same vehicle.	2
9149	Authorizes use of non-DOT specification IMO Type 1 portable tanks, for transportation of motor fuel	2

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NUMBER	PURPOSE	REASON
	antiknock compound.	
9150	Authorizes manufacture, marking and sales of non-DOT specification rotationally molded, cross-linked polyethylene portable tanks with bottom outlet, for shipment of corrosive and flammable liquids or an oxidizer.	2
9154	Authorizes manuacture, marking and sale of non-DOT specification steel drums of 19-gauge (one-millimeter) thickness, with corrugated top and bottom heads, and having double seamed chime construction, to be used in place of 20/18 gauge, 55-gallon capacity DOT Specification 17E drums.	2
9156	Authorizes shipment of acid battery fluid packed with an electric storage battery, in a DOT Specification 12B fiberboard box.	2
9157	Authorizes use of a non-DOT specification multi-unit tank car tank, for transportation of a flammable gas.	2
9158	Authorizes shipment of solid waste materials contaminated with beryllium oxide, in a non-DOT specification roll-on, roll-off, bulk container.	3
9161	Authorizes manufacture, marking and sale of six (6) non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of flammable and corrosive liquids.	2
9162	Authorizes use of a non-DOT specification container, for transportation of flammable liquids or flammable gases.	2
9164	Authorizes manufacture, marking and sale of a non-DOT specification steel portable tank of 345 gallon capacity, with removable head, for shipment of waste paint and waste paint sludge.	2
9166	Authorizes manufacture, marking and sale of cargo tanks manufactured from glass fiber reinforced plastics, for transportation of flammable liquids, corrosive materials and poison B materials.	1
9167	Authorizes use of a DOT Specification MC-310, MC-311 or MC-312 cargo tank lined with plasite, derakane or other plastic linings, for transportation of certain corrosive materials.	2
9168	Authorizes manufacture, marking and sale of specially designed composite type packaging, for shipment of small quantities of various flammable, corrosive, and poison B liquids and solids shipped without labels.	1
9169	Authorizes transport of a water reactive material in vented freight shipping containers.	5

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NUMBER	PURPOSE	REASON
9170	Authorizes use of non-DOT specification cargo tanks, for transportation of a corrosive liquid.	2
9172	Authorizes manufacture, marking and sale of non-DOT specification nonreusable fiberboard bulk box of triple-wall corrugated fiberboard, for shipment of various corrosive and poison B solids.	2
9174	Authorizes use of non-DOT specification cylindrical and spherical pressure vessels, for transportation of helium and nitrogen.	2
9175	Authorizes shipment of crude oil, classed as a flammable liquid, in a cylindrical aluminum container, no more than six of which are overpacked in a wooden box.	1
9176	Authorizes manufacture, marking and sale of DOT Specification 4L cylinders, for transportation of certain nonflammable gases.	2
9179	Authorizes use of DOT Specification 105A300W tank car tanks which are overdue for retesting, for a one-time shipment of a poison B for disposal.	2
9180	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks manufactured from fiber reinforced plastics, for shipment of flammable liquids.	2
9181	Authorizes transport of lithium metal and a thionyl chloride solution in the same non-DOT specification stainless steel vessel.	2
9182	Authorizes transport of explosive pest repellant devices, in plastic boxes packed in DOT Specification 12B fiberboard boxes.	2
9183	Authorizes manufacture, marking and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approximately 2000 pounds each, for shipment of corrosive solids and nitrates.	1
9184	Authorizes shipment of calcium carbide in polyethylene lined woven polypropylene collapsible bags in truckload or carload lots only.	1
9186	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification 307/312 except for bottom outlet valve variations, for transportation of flammable, corrosive or poison B waste liquid or semi-solids.	2
9188	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4
9189	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4

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NUMBER	PURPOSE	REASON
9191	Authorizes shipment of hydrogen fluoride in DOT Specification 112A400W and 114A400W tank cars that have a wide, dark-colored band encircling the tank.	2
9193	Authorizes shipment of a downhole logging tool (sonde) that contains an accelerator housing, one section of which is charged with sulfur hexafluoride to a pressure of 80 psig.	1
9194	Authorizes shipment of calcium cyanide, solid, in collapsible, water-tight, polyethylene-lined, woven polypropylene bags having a capacity of no more than 2,865 pounds.	1
9195	Authorizes manufacture, marking and sale of DOT Specification 12B fiberboard boxes with inside bottles of plastic other than polyethylene, for shipment of certain insect control chemicals.	2
9197	Authorizes manufacture, marking and sale of DOT Specification 34 drums, for transportation of certain flammable liquids.	2
9198	Authorizes DOI, and other government agencies under contract to DOI, to use aircraft which are under exclusive direction and control of DOI for periods of less than 90 days.	1
9199	Authorizes to rebuild, repair, retest, mark and sell DOT Specification 4B, 4BA and 4BW cylinders by a method other than as prescribed.	5
9201	Authorizes calcium cyanide, solid, in collapsible, water-tight, polyethylene-lined, woven polypropylene bags having capacity of 2,204 pounds, overpacked in fiberboard boxes; in full freight container loads, docking at various U.S. ports.	1
9202	Authorizes a one-time shipment of fireworks (tentative Class B explosives)	4
9203	Authorizes shipment of waste phosphorus contaminated with debris, soil and water to a disposal site.	4
9204	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4
9205	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4
9206	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4
9207	Authorizes a one-time shipment of fireworks (tentative Class B explosives).	4
9208	Authorizes transport of an insensitive high explosive	1

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NUMBER	PURPOSE	REASON
	and munitions containing explosive classed as a blasting agent.	
9209	Authorizes shipment of hydrogen peroxide solution in water containing 29%-32% hydrogen peroxide by weight, in a DOT-12P fiberboard box containing one inside DOT-2U polyethylene container of not over five gallons or two inside DOT-2U polyethylene containers of not over 2-1/2 gallon capacity each.	2
9210	Authorize shipment of hazardous materials, which are required to bear the POISON label, to be transported without the label when packaged, in tightly closed glass, plastic or metal containers not exceeding one quart capacity and sealed with tape or equivalent material.	1
9211	Authorizes installation and operation of electrically-powered lighting, air conditioning, alarm, and fire detection systems in cargo holds containing Class A, B and C explosives in a Maritime Prepositioning Ship (TAKX).	2
9212	Authorizes manufacture, marking and sale of non-DOT specification vacuum insulated portable tanks, for shipment of carbon dioxide, refrigerated liquid.	2
9213	Authorizes manufacture, marking and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approximately 2000 pounds each, and top and bottom outlets, for shipment of corrosive solids and nitrates.	1
9215	Authorizes use of DOT Specification 12B fiberboard boxes bearing pre-printed labels not in full compliance with 49 CFR 172.420.	2
9216	Authorizes shipment of phosphorous tribromide, classed as corrosive material, in non-DOT specification nickel drums, of 14-gallon capacity, comparable to DOT Specification 5K nickel drums.	2
9217	Authorizes carriage onboard an aircraft small quantities of a flammable liquid in safety lamps.	1
9218	Authorizes transport of solid cast iron articles contaminated with Cobalt 60.	5
9219	Authorizes a one-time shipment of fireworks (tentative for emergency shipment only).	4
9220	To manufacture, make and sell non-DOT specification polypropylene bags with liner of approximately 3,000 pounds capacity for shipment of certain corrosive or poisonus solids.	
9221	Authorizes manufacture, marking and sale of non-DOT	2

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NUMBER	PURPOSE	REASON
	specification girth welded stainless steel cylinders, for shipment of nonflammable gases.	
9222	Authorizes use of non-DOT specification metal tanks, for transportation of a flammable liquid or flammable solid.	5
9223	Authorizes transport of ammunition for cannon (Class A or B explosive) with other Class B and C explosives and inert materials.	5
9224	Authorizes use of DOT Specification 17C steel drums, with full removable head and 55-gallon capacity, for shipment of magnesium powder, classed as a flammable solid, without subjecting drums to certain reconditioning, retest and marking requirements.	2
9225	Authorizes manufacture, marking and sale of non-DOT specification containers, for transportation of hydrocarbon products, classed as flammable liquids or flammable gases.	2
9226	Authorizes use of DOT Specification 51 portable tanks, for shipment of a flammable liquid.	2
9227	Authorizes shipment of barium styphnate, monohydrate, an initiating explosive, Class A in packaging prescribed in 173.74.	4
9229	Authorizes manufacture, marking and sale of non-DOT specification removable head molded polyethylene containers without overpack, for transportation of corrosive and flammable liquids.	2
9230	Authorizes transport of titanium metal powder, dry, in two polyethylene bags overpacked in a DOT Specification 17H or 17C steel drums.	2
9232	Authorizes shipment of explosives and other hazardous materials forbidden or in quantities greater than those prescribed by commercial air carriers activated under the Civil Reserve Air Fleet during a contingency airlift or national emergency.	1
9233	Authorizes shipment of dry chromic acid, in a non-DOT specification 900 cubic-foot, two-compartment, sift-proof covered hopper type tank motor vehicle.	2
9234	Authorizes use of one gallon glass bottles packed in DOT Specification 33A polystyrene cases, for transportation of organic phosphorous compound mixture, liquid.	
9235	To manufacture, mark and sell DOT Specification 17E, 6 gallon, 24 gauge steel drums for shipment of those hazardous materials authorized in 17E drums.	
9236	Authorizes transport of Class A, B and C explosives aboard aircraft.	4

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NUMBER	PURPOSE	REASON
9237	Authorizes shipment of propulsive rocket motors, in non-DOT specification metal shipping containers.	2
9239	Authorizes manufacture, marking and sale of non-DOT specification steel drums of 30-gallon capacity complying with DOT Specification 17H, except for 178.118-6, for shipment of traffic paint classed as flammable liquid.	2
9240	Authorizes cigarette lighters containing flammable gas to be carried in the passenger carrying cabins of an aircraft.	1
9241	Authorizes transport of explosive pest repellent devices, in fiberboard boxes packed in DOT Specification 12B fiberboard boxes.	2
9242	Authorizes use of a non-DOT specification portable tank, for a one-time shipment of a waste poisonous solid n.o.s. for disposal.	2
9243	Authorizes shipment of a trick noise maker in outside packagings which are not required to be marked or labeled.	1
9244	Authorizes transport of explosive pest repellant devices, in fiberboard boxes packed in DOT Specification 12B fiberboard boxes.	2
9245	Authorizes manufacture, marking and sale of non-DOT specification removable head molded polyethylene containers without overpack, for transportation of corrosive and flammable liquids.	2
9246	Authorizes transport of an unidentified material handled as a poison gas, in one metal cylinder overpacked in a DOT Specification 15A wooden box, placed in the center of a DOT Specification 17C, 55 gallon drum.	4
9247	Authorizes transport of class A explosives with class C explosives and inert material on cargo aircraft only.	5
9248	Authorizes transport of a safety kit containing 2 fifteen minute highway fusees as a Consumer Commodity.	1
9250	To authorize shipment of hydrogen peroxide with concentrations above 52%, classed as an oxidizer overpacked in wooden boxes complying with DOT Specification 19B except the box will be secured with cement coated staplers rather than nails.	
9251	Authorizes use of ICC Specification 51 portable tanks, for transportation of a flammable liquid.	1
9252	Authorizes manufacture, marking and sale of non-DOT specification reusable polyethylene drums of 55 gallon	2

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NUMBER	PURPOSE	REASON
	capacity, for shipment of certain flammable or corrosive liquids and hydrogen peroxide of 52% or less.	
9254	To authorize shipment of insecticide, liquefied gas and/or compressed gas, n.o.s., classed as flammable or nonflammable gas in DOT Specification 39 aluminum cylinders.	
9256	Authorizes shipment of new explosives under a tentative hazard classification to test facilities without marking them as laboratory samples and without being accompanied by a qualified explosives handler.	4
9258	Authorizes transport of shaped charges (commerical) and inert material on cargo aircraft only.	5
9259	Authorizes use of non-DOT specification metal dump trucks, for transportation of a corrosive material.	4
9260	Authorizes transport of large, steel storage tanks containing waste residual phosphorus.	4
9262	Authorizes transport of oil well cartridges containing not more than 500 grains of high explosive.	1
9263	To authorize shipment of compressed gas, n.o.s., classed as flammable gas in DOT Specification 4L cylinders.	2
9265	Authorizes carriage of certain Class A, B and C explosives that are not permitted for shipment by air.	1
9266	Authorizes use of non-DOT specification IMO Type 5 portable tanks, for shipment of liquefied compressed gases.	2
9267	Authorizes use of non-DOT specification metal, single trip, inside container, used as ionization chambers, for transportation of a nonflammable gas.	2
9268	Authorizes manufacture, marking and sale of non-DOT specification cargo tanks similar to DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for shipment of various flammable, corrosive or poisonous waste liquids or semi-solids.	2
9269	Authorizes shipment of ammonium nitrate solution, containing not less than 15% water, in DOT Specification 103DW tank car tanks.	2
9270	Authorizes shipment of hydrogen fluoride, in DOT Specification 112A400W tank cars stenciled DOT Specification 112A200W.	2
9271	To allow the placement of cars placarded explosive A next to cars placarded explosive B, next to loaded flat cars or next to cars equipped with automatic refrigeration or heating apparatus in operation under	1

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NUMBER	PURPOSE	REASON
	certain operating conditions.	
9272	Authorizes use of DOT Specification 57 portable tanks, for transportation of a poison B liquid.	2
9274	Authorizes use of one non-DOT specification cargo tank, for shipment of liquefied petroleum gas.	2
9276	To authorize carriage of various class A, B and C explosives not permitted or air shipment or in quantities greater than those prescribed for air shipment.	
9277	Authorizes shipment of organic phosphate compound mixture, dry, Class B poison, in non-DOT specification five-ply kraft multiwall, laminated bags of 50 pounds capacity having a minimum total basis weight of 250 pounds.	2
9278	Authorizes transport of solid chromic acid, in DOT Specification stainless steel MC-307 cargo tanks.	2
9279	Authorizes transport of a flammable solid which is water reactive in open-top freight containers and open top trailers convered with tarpaulins.	1
9280	To authorize shipment of various flammable liquids which are also corrosive in DOT Specification MC-330 or MC-331 cargo tanks.'	
9281	Authorizes transport of cylindrical pellets of densensitized RDX, in DOT Specification 12B65 fiberboard boxes.	2
9282	Authorizes shipment of trifluoroethylene, classed as compressed gas, in DOT Specification 110A800W tanks.	2
9283	To authorize shipment of helium classed as nonflammable gas in accumulators tested to two times their charged pressure at 70 Degrees F. instead.	
9284	Authorizes transport of gaseous methane, in a DOT Specification MC-330 or MC-331 cargo tank motor vehicle.	5
9285	Authorizes shipment of endosulfan, poison B solid, contained in polyethylene bags, four of which are overpacked in non-DOT specification metal drums.	2
9286	To manufacture, mark and sell fiber drums similar to DOt Specification 21C except for capacity of up to 75 gallons instead of 55 gallons for net weight not exceeding 250 pounds.'	
9287	Authorizes use of non-DOT specification containers, for transportation of flammable liquids and gases.	5
9288	Authorizes controlled release of ethylene contained in	2

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NUMBER	PURPOSE	REASON
	DOT Specification 3A or 3AA cylinders, into a transport vehicle, for the purpose of ripening fruits and vegetables.	
9289	Authorizes shipment of certain herbicides in metal or polyethylene portable tanks considered to be an implement of husbandry, without shipping papers.	1
9290	To manufacture, mark and sell 15 gallon steel overpacks similar to DOT 3M except for a slight reduction in wall thickness with polyethylene liner meeting DOT 2SL except for marking for shipment of those commodities authorized in DOT 37M/2SL.	
9291	Authorizes use of a DOT Specification 105A400W tank car tank with a modified insulation system, for transportation of chlorine, a nonflammable gas.	2
9294	To authorize shipment of benzoyl chloride, classed as a corrosive material, in DOT Specification 6D/2SL composite packagings.	
9295	To manufactu, mark and sell non-DOT specification steel cylinders comparable to DOT Specification 39, for shipment of various non-flammable gases.	
9296	Authorizes transport of limited quantities of liquid sodium potassium alloy, packaging bearing the DANGEROUS WHEN WET label in motor vehicles and rail cars which are not placarded FLAMMABLE SOLID W.	1
9298	Authorizes shipment of liquid bromine, classified as a corrosive material in non-DOT specification teflon lined carbon steel tanks.	2
9299	Authorizes use of non-DOT specification containers, for transportation of flammable liquids and gases.	4
9300	Authorizes use of non-DOT specification containers, for transportation of flammable liquids and gases.	4
9301	Authorizes transport of shaped charges, commercial Class A explosives.	5
9302	Authorizes air transport of radioactive material without transport index and separation distance controls provided operations are in accordance with safety instructions provided by DOE or DOE contractor radiological safety personnel.'	1
9303	Authorizes a foreign-flag vessel (M/V PATRICK) to transort packages of explosives which are described, classed, packaged, marked and labeled in accordance with the International Maritime Dangerous Goods Code through United States waters and to unload and load such packages of explosives.	5

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NUMBER	PURPOSE	REASON
9304	Authorizes shipment of silver nitrate, solid, in DOT Specification 35 nonreusable removable head plastic containers.	2
9305	To authorize shipment of flammable liquid and gases, (hydrocarbon products) non-DOT specification containers (meter provers).	
9306	To manufacture, mark and sell DOT Specification 6D overpack with a teflon iner similar to DOT Specification 2SL, for shipment of those corrosive liquids presently authorized in DOT 6D/2S or 2SL.	
9307	Authorizes shipment of methyl alcohol in inside metal containers of two-gallon capacity, overpacked three to a DOT Specification 12B fiberboard box.	5
9308	To authorize shipment of a corrosive liquid, n.o.s., in DOT Specification 2E polyethylene bottles equipped with vented closures to be overpacked in DOT Specification 12B fiberboard box.	
9310	Authorizes transportation of Class A and C explosives on cargo aircraft only.	5
9312	To authorize shipment of space shuttle orbiters each containing as intricoil parts residual hypersolic fluids, nonflammable gas pressurized vessel and variety of Class C explosive devices.	
9313	To authorize shipment of various corrosive material and an oxidizer in used DOT Specification 1D glass carboys overpacked in 1-M styrofoam overpacks.	
9315	To authorize shipment of magnesuim salt coated granules flammable solid in non-DOT specification woven polypropylene bags of up to two ton capacity.	
9316	To manufacture, mark and sell a teflon liner similar to DOT Specification 2SL contained in a DOT Specification 6D, for shipment of those corrosive liquids authorized in DOT Specification 6D/2S or 2SL and up to 70% nitric acid.	2
9317	To authorize shipment of chlorine, waste, in non-DOT specification cargo tanks over a short distance of public highway.	
9318	To authorize carriage of various Class A, B and C explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	
9319	Authorizes DOT Specification 57 steel portable tanks, for water treatment compounds or boiler compounds, liquid that are not alkaline.	5

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NUMBER	PURPOSE	REASON
9323	To authorize shipment of gasoline and JP 4 and 5 fuel, classed as flammable liquids, in non-DOT specification 500 gallon collapsible rubber drums.	
9325	Authorizes a one-time shipment of rocket ammunition with explosive projectile by cargo aircraft only.	1
9326	To authorize shipment of liquefied carbon dioxide, classed as a nonflammable gas, in non-DOT specification cargo tanks.	
9327		
9328	Authorizes use of non-DOT specification cargo tank motor vehicles, for transportation of a flammable liquid.	5
9329	Authorizes transport of charged well casing jet perforating guns, classed as explosive A or explosive C.	5
9330	Authorizes use of non-DOT specification portable tank of 1,000 to 2,000 gallon capacity, for transportation of nitrogen refrigerated liquid.	5
9331	To authorize shipment of sodium chlorite solutions not exceeding 25%, classed as a corrosive material, in DOT Specification MC-306 and 307 cargo tanks.	
9332	To authorize shipment of platinium powder, class A explosive, to be described as a flammable solid, n.o.s. when in solution contained in up to a five gallon capacity 2U, overpacked in a DOT Specification 15A wooden box.	
9333	Authorizes shipment of one steel cylinder with a leaky valve, for transportation of a corrosive material.	4
9336	To authorize carrisge of various Class A, B and C explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	
9337	To authorize carriage of various Class A, B, and C explosive not permitted for air shipment or in quantities greater than those prescribed for air shipment.	
9338	To authorize shipment of hydrofluoric acid, anhydrous in multi-unit tank car tanks which have not been retrofitted with a gas tight valve cover assembly.	
9339	To authorize non-DOT specification halonite demonstrators, containing limited quantities of compressed gases to be carried by passenger in carry-on baggage in the cabin compartment of an aircraft.	
9340	To manufacture, mark and sell non-DOT specification polyethylene portable tanks of up to 450 gallon capacity	

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NUMBER	PURPOSE	REASON
	for shipment of various corrosive materials.	
9341	To manufacture, mark and sell non-DOT specification polyethylene containers of 85 gallon capacity for overpacking various damaged or leaking packages of hazardous materials for repackaging or disposal.	
9342	Authorizes use of mislabeled multi-wall paper bags, for transportation of ammonium nitrate fertilizer.	5
9343	To authorize shipment of lithium metal in DOT Specification 51 portable tanks.	
9344	Authorizes manufacture, marking and sale of non-DOT specification rotationally molded, linear medium-density polyethylene portable tanks, for shipment of corrosive liquids.	
9345	Authorizes manufacture, marking and sale of DOT Specification 12B fiberboard boxes bearing pre-printed labels not in full compliance with 172.420, for transportation of flammable solid.	2
9347	To manufacture, mark and sell non-DOT specification stainless steel cylinders not to exceed 1800 psig, for shipment of various flammable and nonflammable gases.	
9348	To authorize lithium batteries compressed of up to four cells, each containing 0.5 grams of lithium, not to exceed a total of 2 grams per battery to be shipped as essentially non-regulated.	
9349	Authorizes rebuilding, retesting, marking and selling of DOT Specification 4B, 4BA and 4BW cylinders, for transportation of compressed gases, flammable liquids and corrosive materials.	
9351	To authorize manufacture, marking and sale of non-DOT specification steel spheres, made in compliance with DOT Specification 3E with certain exceptions, for transportation of certain nonliquefied, nonflammable compressed gases.	
9354	To authorize shipment of nitrocellulose, wetted with 30% ethyl alcohol in non-DOT specification fiberboard drums.	
9355	To authorize lithium batteries comprised of up to 1.5 grams per cell with each battery not exceeding 2 grams as essentially nonregulated.	
9357	To authorize shipment of various flammable and nonflammable gases in non-DOT specification IMO 5 portable tanks.	
9358	To authorize shipment of various flammable or corrosive liquids in up to one gallon capacity glass or polyethylene containers overpacked in a thermoformed	

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NUMBER	PURPOSE	REASON
	high density polyethylene case.	
9361	To authorize transport of class A explosives with class C explosives and inert material on cargo aircraft only.	5
9362	To authorize use of non-DOT specification portable tanks of not over 500 gallon capacity, for transportation of nitrogen, refrigerated liquid, nonflammable gases.	5
9363	To authorize shipment of certain flammable and nonflammable gases in non-DOT specification cylinders comparable to DOT Specification 3A except they manufactured of monel, to be incoporated in a specially designed gas system.	
9364	To authorize shipment of a poison B liquid, n.o.s, in DOT Specification 12P fiberboard boxes each containing two 2-1/2 gallon 2U containers.	
9367	To manufacture, mark and sell non-DOT specification polypropylene bags of approximately 2,000 pound capacity, for shipment of various oxidizer and corrosive solids.	
9369	To authorize transport of class A explosive with Class C explosives and nonhazardous material on cargo aircraft only.	
9370	To manufacture, mark and sell non-DOT specification cylinders patterned after DOT Specification 3T, for shipment of those gases authorized in DOT 3AA and 3T cylinders.	
9371	To authorize carriage of various Class A, B and C explosivesnot permitted for air shipment or in quantities greater than those prescribed for air shipment.	
9372	To authorize transportation of charged oil well jet perforating guns equipped with detonator and arrest device, classed as explosive A or C.	
9374	To manufacture, mark and sell non-DOT specification cross-link polyethylene tanks of approximately 200 to 400 gallon capacity for shipmetn of hydrogen peroxide, classed as an oxidizer and certain corrosive and flammable liquids.	
9375	To make a one-time shipment of various scrap explosives, whose true identity and classification cannot be ascertained, as Class A explosive.	
9376	To authorize transportation of an organic peroxide in quantities exceeding the package limitation or cargo aircraft only.	
9377	To authorize shipment of certain high explosive emulsion	

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NUMBER	PURPOSE	REASON
	products containing over 5% moisture to be packaged in polyethylene coated kraft paper tubing overpacked in DOT Specification 12H fiberboard boxes.	
9378	To authorize one-time, phased shipment of approximately 4000 small samples of certain etiologic agents contained in tubes and vials, packed in inside fiber drums overpacked in DOT Specification 21C fiber drums or equivalent.	
9379	To authorize shipment of ammonium nitrate fertilizer in collapsible polyethylene-lined, woven polypropylene bags having a capacity for approximately 2,000 pounds each.	
9380	To authorize shipment of hydrocarbon products, classed as flammable liquid or flammable gas in non-DOT specification displacement meter proving units, to be affixed to a truck or trailer.	
9381	Authorizes transportation of a water reactive solid, which evolves hydrogen slowly when wet, in open packagings such as drums, hopper trucks and gondola cars.	
9382	To manufacture, mark and sell non-DOT specification cargo tanks similar to DOT Specification MC-307/312 except for bottom outlet valve variations, for shipment of various flammable corrosive, or poison waste liquids or semi-solids.	
9384	To authorize use of approximately 20,474 bags for shipment of ammonium nitrate mixed fertilizer showing an oxidizer label measuring 3-9/16 inches on each side instead of the required 11 inche.	
9385	To authorize shipment of certain flammable liquids which are also corrosive liquids in DOT Specification 111A100W4, 112A200W or 114A340W tank car tanks.	
9386	To manufacture, mark and sell non-DOT specification birth welded stainless steel cylinders similar to DOT Specification 3HT, for shipment of nitrogen, classed as nonflammable gas.	
9387	To ship a less than 20% organic phosphate charged with nonflammable compressed gas in DOT Specification 2P containers; to ship a charged mixture not exceeding 40% organic phosphate in DOT Specification 3B 150 and 3B 300 cylinders.	
9389	To authorize shipment of approximately 360,000 bags, containing sodium nitrate or nitrate, n.o.s., which are not marked with the proper shipping name and identification number.	
9390	To authorize carriage of larger quantity of liquid petroleum gas than authorized by 49 CFR 172.101 in a DOT	

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NUMBER	PURPOSE	REASON
	Specification 51 portable tank on cargo-only aircraft.	
9392	To manufacture, mark and sell non-DOT specification steel cylinders comparable to DOT Specification 3E, for shipment of carbon dioxide, nonflammable gas.	
9394	To authorize use of a limited number of existing cylinders with markings stamped in the sidewall, for transportation of compressed gases.	
9401	To offer non-DOT specification portable tanks built to DOT Specification 51 except for ASME Code Certification, for shipment of various nonflammable compressed gases (refriserants).	
9402	To offer non-DOT specification portable tanks built to DOT specification 51 except for ASME Code Certification, for shipment of various nonflammable adn flammable compressed gases.	
9408	Authorizes transport of silicon tetrafluoride in DOT Specification 3AAX cylinders built of 4130X alloy steel.	
9410	To authorize use of non-DOT specification metal tanks, for transportation of an oxidizer.	
9412	Authorizes use of certain DOT Specification 3AAX2400 cylinders, for transportation of flammable gases.	
9413	Authorizes transport of a chemical kit which contains small amounts of hydrochloric acid and zinc powder.	
9416	To authorize shipment of organophosphorus pesticide, liquid, n.o.s., classed as a poison B, in DOT Specification 12P-60 fiberboard boxes each containing two 2-1/2 gallon 2U containers.	
9418	To manufacture, mark and sell non-DOT specification portable tanks having 6-60 gallon compartments firmly mounted on a truck chasis for shipmetn of various flammable and corrosive liquids (oil well treating compounds).	
9422	To authorize the depletion of a stock of approximately 40,000 shipping papers and labels preprinted with a proper shipping name now obsolite.	
9423	To authorize shipment of air in nonrefillable aluminum cylinders that are part on an emergency breathing apparatus, in a DOT Specification 39 seamless aluminum cylinder	
9425	To authorize cyanide solutions, classed as poison B and ammonium hydroxide solutions, classed as corrosive material to be transported together in the same motor vehicle.	

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NUMBER	PURPOSE	REASON
9428	To authorize shipment of chlorine, classed as nonflammable gas, in CTC 105A500W tank cars insulated with fiberglass and ceramic fiber.	
9430	Authorizes manufacture, marking and sale of a polyethylene/fiberglass removable head salvage drum of 90-gallon capacity for overpacking damaged or leaking packages of hazardous materials, for repackaging or disposal.	
9431	To authorize shipment of a kit containing 7 different type class A and B explosives contained in M13 ammo cans cushioned with polypropylene, overpacked in a military specification MIL-B-2427 box.	
9433	To authorize shipment of certain flammable gases in glass bulbs not exceeding 1 liter capacity overpacked in a DOT Specification 12A or 12B fiberboard box, cuhioned with foam, only one bulb per box.	
9434	To manufacture, mark and sell approximately 712 polyethylene containers comparable to DOT Specification 35 except for embossment for shipment of a certain dry corrosive material.	
9437	To authorizes shipment of corrosive liquid, n.o.s. in 55 gallon capacity DOT Specification 34 polyethylene containers.	
9438	To authorize use of DOT Specification 103W tank cars, for transportation of a flammable liquid.	
9442	To authorize the use of 20/18 gauge DOT Specification 17E steel drums, for transportation of a flammable liquid.	
9443	To authorize shipment of class B rocket motors with igniters installed.	
9446	To authorize shipment of flammable liquids with flash points below 73 degrees Fahrenheit to be transported in holds or compartments that are fitted with a gooseneck type of vent head.	
9447	To authorize shipment of certain hazardous wate placed in compressed gas cylinders which are overpacked into intermediate containers than placed in removable head drums and completely surrounded by absorbent material.	
9451	To authorize use of containers equipped with tarpaulins for rail transportation, for shipment of a class A explosive.	
9452	To authorize the use of non-DOT specification tank cars which conform to DOT Specification 111A100W1 except for certain prescribed bracket reinforcing pads, for transportation of a corrosive material.	

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NUMBER	PURPOSE	REASON
9453	To authorizes a one time shipment of bromotrifluoromethane in two DOT Specification 4BW500 cylinders, containing 410 pounds of gas, which exceeds the weight limitations authorized for cargo aircraft.	
9454	To authorize use of non-DOT specification tank cars which conform to DOT Specifications 105A300W, 111A100W1 or 111A100W6, except for certain prescribed bracket reinforcing pads, for transportation of flammable liquids, corrosive liquids, or poison B liquids.	
9455	To authorize shipment of certain hazardouswaste materials placed in compressed gs cylinders which are overpacked in specially fabricated metal packagings.	
9457	To authorizes the use of non-DOT specificcation tank cars which conform to DOT Specification 111A60W1, 111A100W1 or 111A100W3, except for certain prescribed bracket reinforcing pads.	
9458	Authorizes use of non-DOT specification tank cars which conform to DOT Specifications 105A300W, 111A100W1 or 111A100W6 except for certain prescribed bracket reinforcing pads.'	
9459	To authorize use of non-DOT specification tank cars which conform to DOT Specification 111A100W1 except for certain prescribed bracket reinforcing pads, for transportation of flammable liquids, flammable solids adn corrosive materials.	
9460	To authorize shipment of zirconium nickel alclo, and initiating explosive, class A contained in 1 pound velostat sealed bags overpacked ten to a 5 gallon metal container surrounded by wet sawdust.	
9467	To authorize flammable solids, oxidizing materials and corrosive liquids to be loaded in up to 65 pounds or 7 gallons capacity excepted from ready access requirements.	
9470	To authorize use of a non-DOT specification tank car which conforms to DOT Specification 105A300W except fro certain prescribed bracket reinforcing pads, for transportation of flammable gases.	
9471	To authorize use of DOT Specification tank cars which conform to DOT Specification 105A300W or 105J300W, except for certain prescribed bracket reinforcing pads, for transportation of a flammable gas.	
9473	To authorize use of non-DOT specification tank cars which conform to DOT Specification 105S300W except for certain prescribed bracket reinforcing pads, for transportation of a flammable gas.	

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NUMBER	PURPOSE	REASON
9475	To authorize transportation of shaped c harges, commercial, aboard cargo aircraft.	
9476	To authorize use of a non-DOT Specification tank car which conforms to DOT Specification 111A100W1 except for certain prescribed braket reinforcing pads, for transportation of a orrosive material.	
9477	To authorize use of non-DOT specification tank cars which conforms to DOT Specification 112J340W, except for certain prescribed bracket reinforcing pads, for transportation of a flammable gas.	
9494	To authorize shipment of oxygen, class as nonflammable gas, in non-DOT specification cylinders similar to DOT Specification 3E with certain exceptions.	
9495	To authorize use of a non-DOT specification tank car which conforms to DOT Specification 111A100W1 except for prescribed bracket reinforcing pads, for shipment of a corrosive material.	

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